

工业设备用 产品目录 Ver.1.0

INDUSTRIAL

PRODUCT CATALOG Ver. 1.0





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高品质、高可靠性，及长期稳定供应 支持工业设备的进一步技术革新

罗姆半导体集团自成立以来一直坚持“质量第一”的企业目标，为消费电子设备和IT设备、汽车相关设备以及工业设备等多个领域源源不断地提供高品质可信赖的IC及分立元器件、模块产品。

近年来我们进一步加强在未来有望扩大的工业设备领域的进取，汇集多年来在消费电子设备和汽车相关设备领域培育的技术，致力于节能、安全、舒适、小型化革新性产品的开发。

产品开发的后盾正是贯穿从开发到生产一条龙的罗姆集团“垂直统合”系统。这也是成立以来一直坚守“品质优先”的罗姆精神的象征。我们在每一道工序上坚持高品质生产，力求切实的可追溯性管理和供应链的优化，实现工业设备要求的高品质、高可靠性及长期稳定的供应。

罗姆集团将一如既往在开发满足客户和市场需求产品的同时，努力提高各方面的品质，为广大客户提供贯穿整个生产环节的放心产品，为工业设备更深层次的技术革新做出贡献。

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技术

工业设备发展的可靠技术和放心的产品生产



罗姆汇集在消费电子设备和汽车相关设备领域培育的技术，不断推进工业设备领域节能/高效、高速、小型化的革新性产品的开发。

并通过高品质、稳定供应的放心生产体制，持续不断地为工业设备发展做出贡献。

高品质

- 一条龙生产体制
- 可追溯性管理

稳定供应 【10年以上】

- 放心的BCM (事业持续管理)体制
- 支持绝对交期
- 长期供应
- 提供舒适服务的营业体制

技术实力

- 应用了模拟电源技术的高效率、高精度IC
- 最先进的功率元器件
- 从无源元器件到模块的宽广产品阵容

产品阵容

从IC到模块

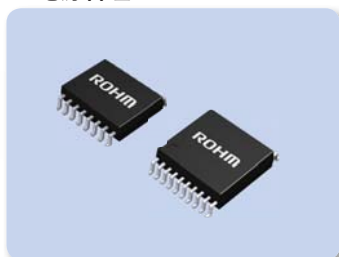
以宽广的产品阵容为客户提供整体方案



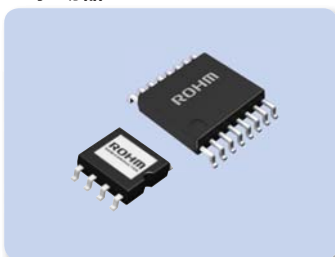
罗姆拥有从无源元器件到分立元器件、IC以及模块的宽广的产品阵容，
能够为广大客户提供系统层面的方案。
并以罗姆集团综合实力，持续为广大客户提供电路对应的最佳解决方案。

IC

■ 电源管理IC



■ 驱动器IC



- 存储器
- 放大器/比较器
- 时钟/计时器
- 开关/多路转换器/逻辑
- 数据转换器
- 接口
- 电源管理
- 电机/执行机构驱动器
- LED驱动器
- 显示用驱动器
- 传感器/MEMS

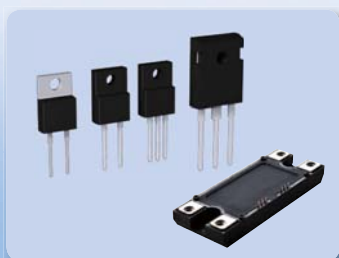
- 通信用LSI
- 音频/视频
- 语音合成LSI
- 微控制器



分立半导体/光学半导体/无源元器件/模块

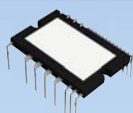
■ SiC功率元器件

- SiC-肖特基势垒二极管
- SiC-MOSFET
- 全SiC模块



■ 功率元器件

- 智能功率模块



- IGBT
- 功率晶体管
- 功率二极管

■ 小信号元器件

■ 晶体管

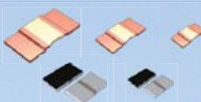


■ 二极管



■ 无源元器件

■ 电阻器



■ 钽电容器



■ 光学元器件

■ LED



- LED显示器
- 激光二极管
- 光学传感器
- IrDA红外通信模块
- 远程控制接收器模块

■ 模块

- 电源模块
- 无线通信模块
- 接触式图像传感器

■ 热敏打印头



品质

垂直统合型生产体制实现的
高品质、稳定供应

原材料的严格控制

硅锭采集到晶圆
制造



硅原石

Silicon Ingot



Si
硅

SiC
碳化硅

自产光掩模

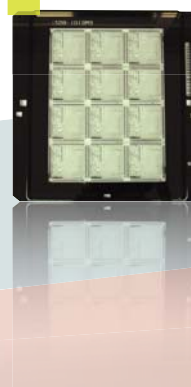
从IC芯片设计布线到光掩模制造,
通过贯穿始终的品质管理追求高
品质

CAD

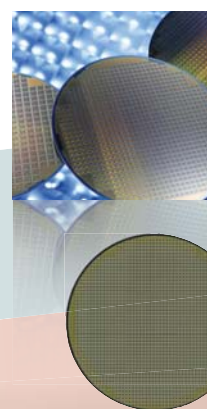


Wafer

Photo Mask



Wafer



Wafer Process

SiCrystal AG

SiCrystal AG公司是2009年成为罗姆
集团旗下一员的德国SiC单晶晶圆制
造商。

高品质

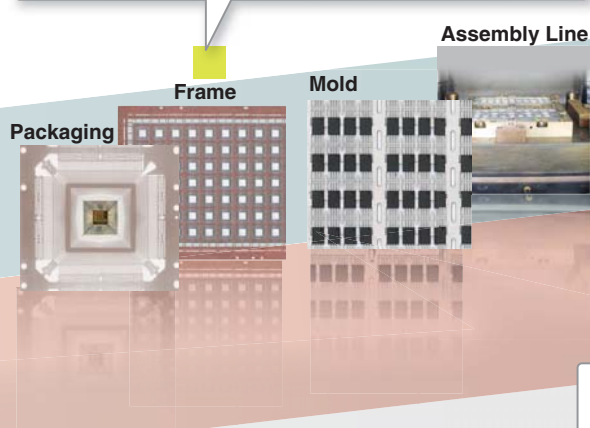
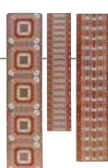
确保全流程高品质

罗姆把“质量第一”作为企业目的,并始终追求着这一目标。根据“一条龙生产体制”在集团内部进行包括开发、设计、晶圆制造在内的生产、销售、服务,努力提高所有工序的品质。同时实现卓越的可追溯性,形成了可使客户放心使用产品的体制。



自产模具及引线框架

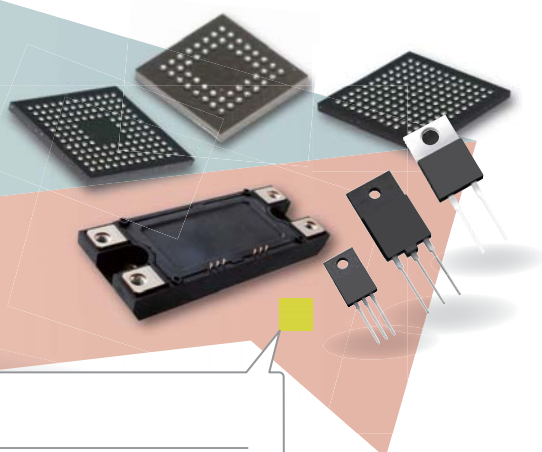
为确保高品质，引线框架冲压模具及成型模具全部自行生产



Test

最尖端封装

CSP、BGA、COC、Stacked封装等最尖端的装配技术



自行开发生产系统

自行开发生产系统

罗姆自行开发的生产系统，可细致周到地满足客户的需求

稳定供应

举集团之力履行供货责任

罗姆集团积极捕捉市场动态，持续履行所需产品的供货责任。通过一条龙生产为轴心的垂直统合型生产体制，自行管理生产工序，由此构建了一个与一般的无晶圆厂的厂商和晶圆代工厂商相比，难以受到外部影响的体制。我们将持续完善多网点生产体制和保持灾害应对安全库存等的BCM(事业持续管理)体制，坚持不懈地为客户提供稳定供应。

稳定供应

实现工业设备所需的稳定供应

稳定供应

罗姆长期稳定供应面向工业设备市场的产品。
按照工业设备要求的长期保障，进行10年以上的长期供应。
注) 只要不发生战乱、天灾等不测事态就持续供应，但万一发生不测事态，可能需要和客户协商最佳对策。

用于兑现供货责任的风险管理

所有网点都贯彻执行BIA，规避基于停产风险及其停业天数的风险。

多网点生产体制 (不会同时受到外部影响的多个网点生产)

危机时的库存设计 (缩短交付周期、库存调整)

罗姆集团通过以一条龙生产为核心的垂直统合型生产体制，自行管理制造工程。因此，与一般的无晶圆厂的厂商和晶圆代工厂商相比，更不易受到外部的影响，致力于向客户进行稳定供货。



■各工厂风险验证

Example : RIST(Back-end)									
Risks	Actual shutdown examples in the past	Occurrence frequency (A)			Suspension Period (B)			Overall Judgment (A)×(B)	Mitigation Plan / Reasons for not needing measures
		3 points	2 points	1 point / None	10 days / 6-14 days / 7 days / 0 days	5 points / 2 points / 1 point / 0 point			
Natural Disaster	Earthquake	Low Risk in Bangkok and its environs.						Open	No earthquake around Bangkok area.
	Typhoon / Tornado	Typhoons strike 4 times a year in average. Damage by subsequent flood is significant.	●					Open	Typhoon hits the area occasionally, but not hard enough to affect the factory. Employees reside nearby / reflect to production in advance.
	Flood	Damaged by Flood, 40 days from 2011/10/25.	●						Power outage for few minutes due to
	Heavy Rain		●						
	Fog / Heavy Snow / Yellow Rainfall	None		●					
	Tsunami	None							
	Unspecified	None							
					Factory	Product	Stoppage Risk Worst-1	Stoppage days	Stoppage Risk Worst-2
					RIST (Thailand)	R/TR/DI / TC/LSI	Flood	7	Holiday due to the national event.
					REPI (Philippines)	TR/DI/LSI	Typhoon	2	-

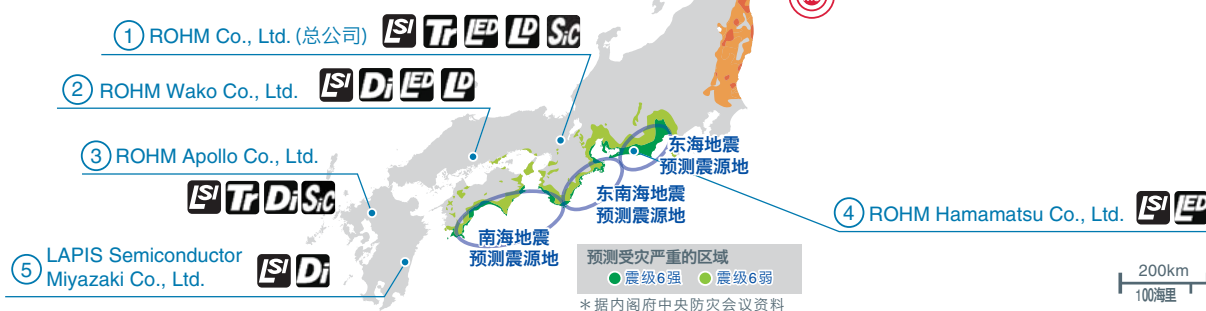
全工厂的
风险检查



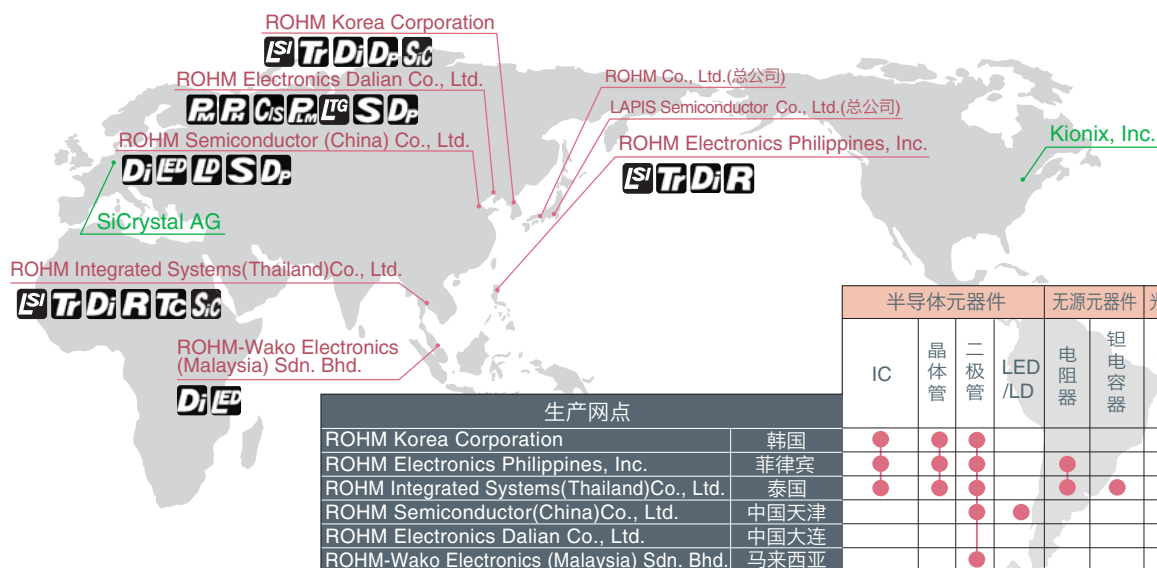
多网点分散风险的晶圆工厂

生产据点		IC	晶体管	二极管	SiC	LED /LD
ROHM Co., Ltd. (总公司)	① 京都	●	●	●	●	●
ROHM Wako Co., Ltd.	② 冈山	●	●	●	●	●
ROHM Apollo Co., Ltd.	③ 福冈	●	●	●	●	●
ROHM Hamamatsu Co., Ltd. (抗震工厂)	④ 静岡	●	●	●	●	●
LAPIS Semiconductor Miyazaki Co., Ltd.	⑤ 宫崎	●		●		
LAPIS Semiconductor Miyagi Co., Ltd.	⑥ 宫城	●				

例如即使发生大地震也能通过
多网点进行风险规避



后道工序由国外稳定供给



2015年12月



工业设备框图

工厂自动化

利用多种新技术，使FA 市场中使用的
元器件，实现“节能化”、
“高速化”、“小型化”

11p

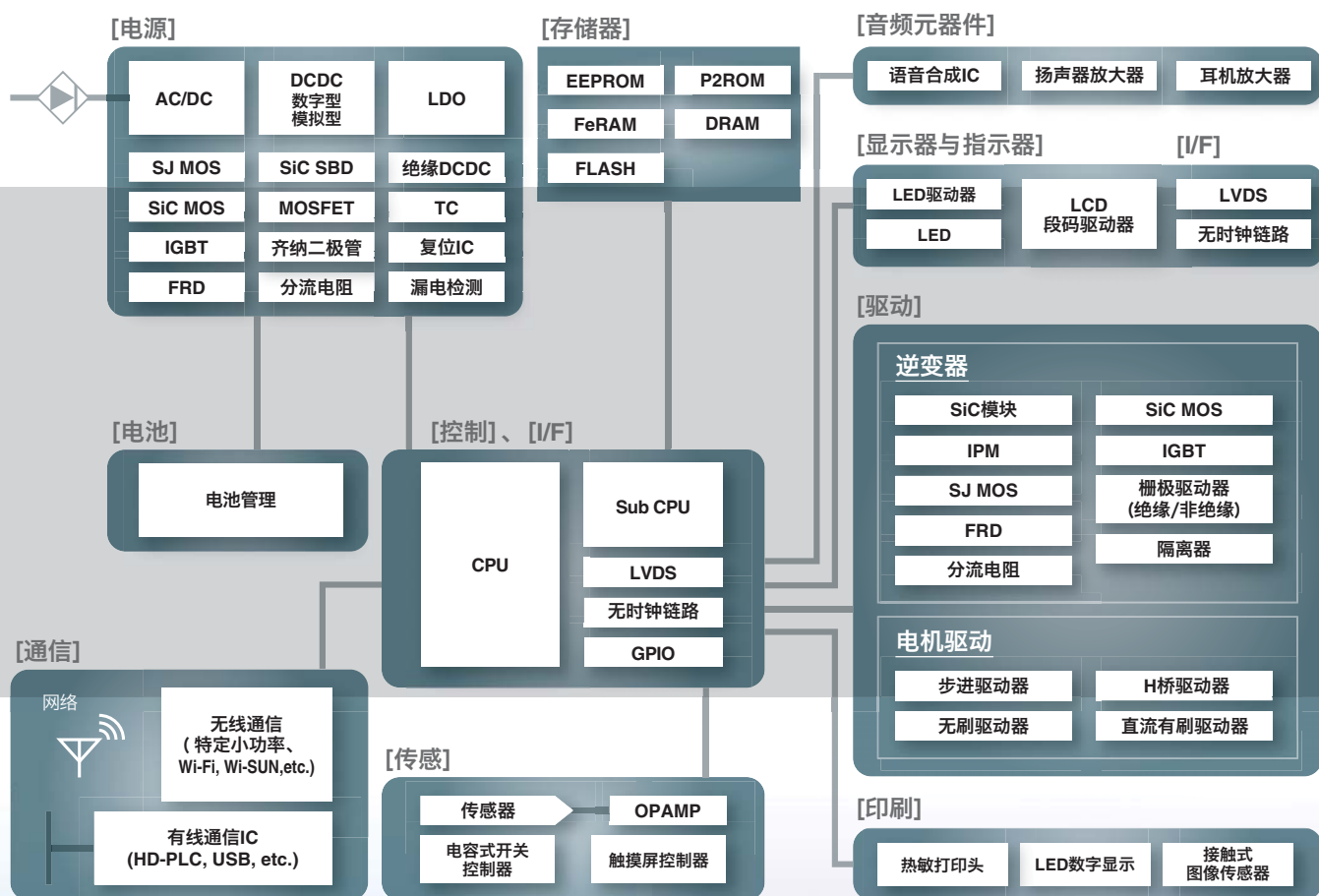


电源装置

罗姆的功率元器件，有助于电源装置
实现“节能化”、“小型化”、
“低噪音化”

19p





能源管理系统

针对HEMS、BEMS、FEMS 等EMS
提供系统级别的最佳元器件

25p



所有工业设备

面对工业设备市场的多样化需求，以IC、分立
半导体、无源元器件及模块等宽广的
产品阵容提供支持

31p

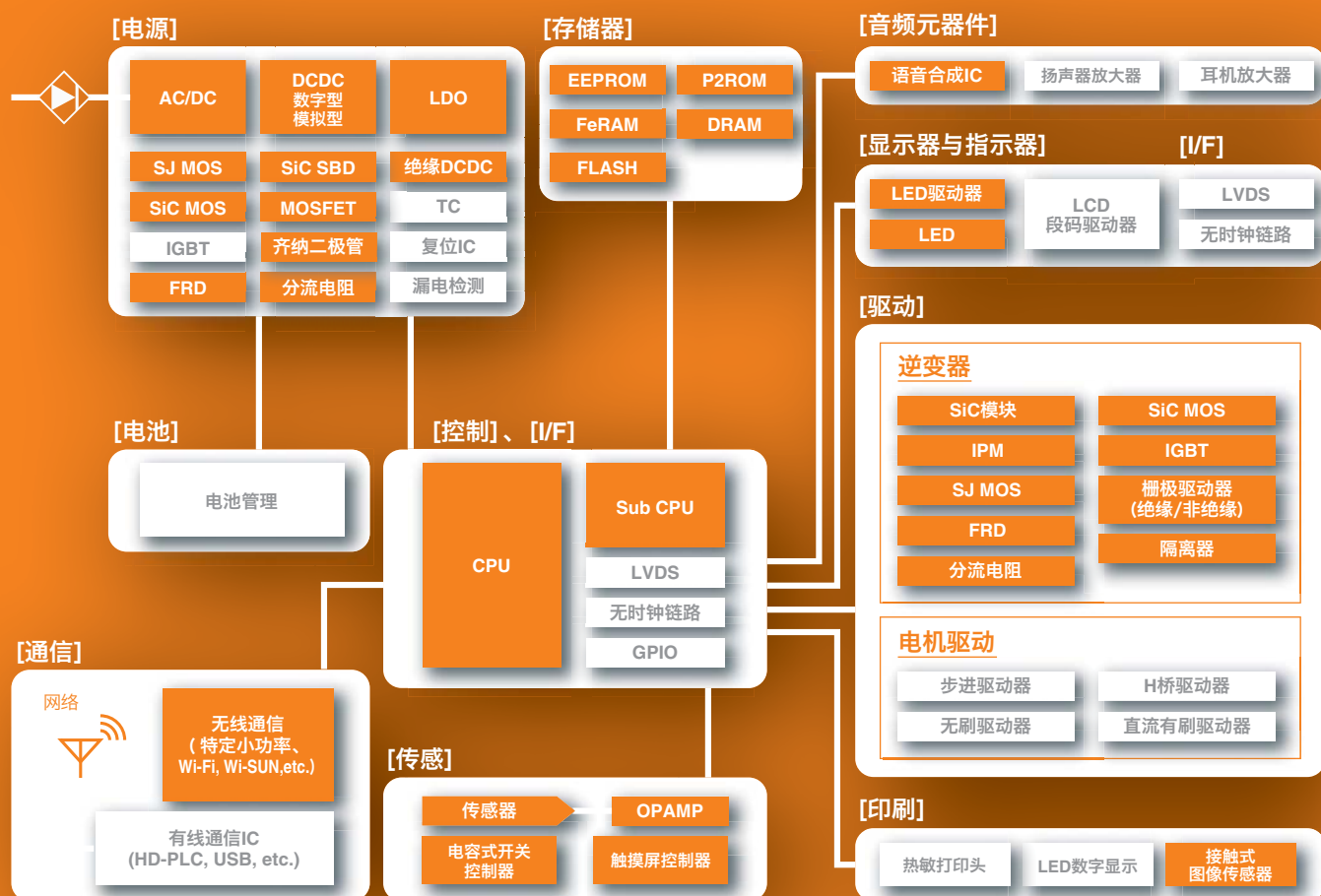


01:

Factory Automation

工厂自动化

>> 框图



利用多种新技术， 使FA 市场中使用的元器件， 实现“节能化”、“高速化”、“小型化”

随着FA市场在世界上急速扩大，不断开发出高生产率、低功耗、小型化的设备。

罗姆为这些设备，提供各种电子元器件。



>> 推荐产品

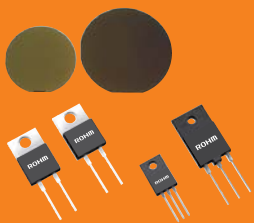
栅极驱动器

是以SiC为首的功率元器件控制中不可或缺的栅极驱动器。罗姆的栅极驱动器内置绝缘元件，实现了业界最小封装。在为系统小型化做出贡献的同时通过优化后的IC技术，最大限度发挥功率元器件的特性。



SiC 功率元器件

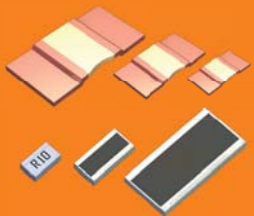
传统硅元器件做不到的、实现高耐压、低损耗且高速开关的SiC功率元器件。罗姆于业界率先在2010年构建了开发、量产体制。从SiC-MOSFET到SBD、模块，我们用宽广的产品阵容来满足广大客户对功率元器件的需求。



分流电阻器

是电机控制中必不可少的电流检测电路用的电阻器。

实现了大功率、超低电阻，适用于FA用电机等大电流组件。不断扩充金属板超低电阻大功率类型、金属板超低电阻类型、厚膜低电阻/长边电极类型的产品阵容。



>> 索引

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15	面向FPGA的表面贴装DC/DC模块
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16	IPD(智能功率元器件)
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18	抗硫化贴片电阻器

内置2,500Vrms 绝缘元件

栅极驱动器

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罗姆的栅极驱动器融合了最先进的BiCDMOS工艺和独创的片上变压器工艺技术，内置绝缘元件。作为内置绝缘元件型它实现了业界最小封装，为系统的小型化做出贡献。而且，比起普通光电耦合器方式，它具备优秀的“高抗噪性”、“低消耗电流”、“短延迟时间”、“温度特性”，并兼顾保护功能和品质要求，为提高系统的可靠性和降低设计负载做出贡献。

业界最小

比起传统构造

实现**50%以上小型化**

高速

延迟时间

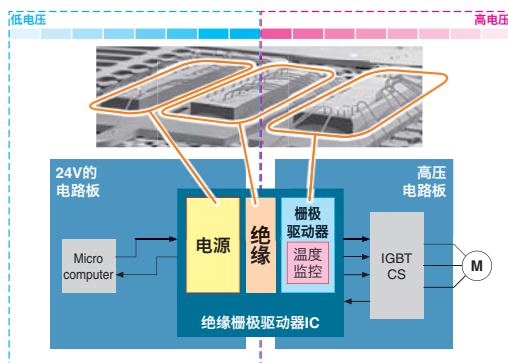
150ns

低耗电

比光电耦合器方式(ICC1=0.9mA)

减少1/10

高压电路的安全举措

罗姆的一体化封装
绝缘栅极驱动器

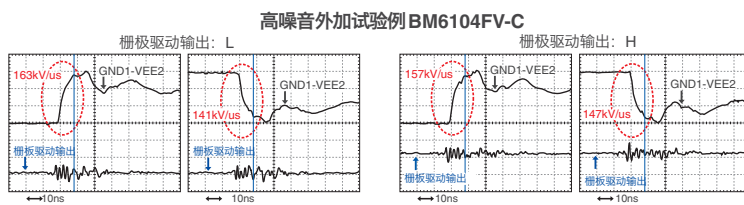
- 驱动IGBT/MOS-FET的栅极驱动器
- 内置监控IGBT/MOS-FET温度余量的功能
- 内置反激式电源的一体化IC



业界最高抗噪性，防止误动作

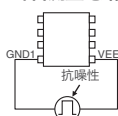
在功率半导体开关工作时的抗噪性方面，通过新建最佳电路设计攻克了该课题。实现业界最高100kV/μs，是普通产品的2倍。通过避免出现噪音导致的误动作，提高了应用的可靠性。

防止误动作能力强，实现业界最高的抗噪性



栅极驱动输出Low/High时均无误动作

噪音测量电路

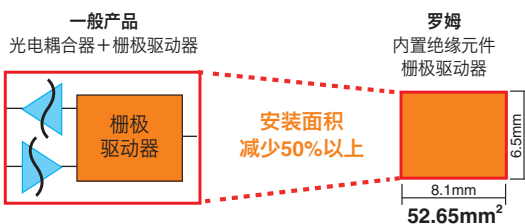


【条件】
Ta=25℃
VCC1=5V, VCC2=15V, VEE=-8V
OUT1_H/L=无负载, VCM=1500V
据罗姆测量

兼顾高性能和业界最小尺寸

在兼顾上述高性能的同时，还运用独创的绝缘器件成型技术和微细加工技术将绝缘元件内置于栅极驱动器中，并且实现了业界最小尺寸(W×D×H=6.5mm×8.1mm×2.01mm)。通过内置绝缘元件，与组合使用绝缘用光电耦合器和栅极驱动器时相比，安装面积可减少50%以上。

内置绝缘元件，达到业界最小尺寸



最适用于SiC电源模块的评估

2ch 栅极驱动器参考板

P.57 >

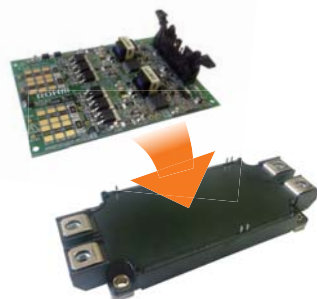
是300A SiC电源模块评估用2ch栅极驱动器参考板。内置绝缘DC/DC转换器，使得单电源结构成为可能。还搭载了短路检测和米勒钳位、栅极状态监视等各种各样的保护功能。

- 能直接驱动300A/1200V SiC电源模块(BSM300D12P2E001)
- 采用罗姆产内置绝缘的栅极驱动器BM60052FV，内置绝缘DC/DC转换器
- SiC-MOSFET的短路检测、软关断、FLT输出UVLO、栅极监视输出、米勒钳位

规格	
尺寸 (mm)	100 × 65
电源 (V)	12 ~ 28
输出正向偏置 (V)	+17 ~ +19
输出逆向偏置 (V)	-3 ~ -5
隔离电压 (Vrms[1Min])	2,500
输入信号频率 (kHz)	DC ~ 100
工作温度 (°C)	-40 ~ +70

使用案例

- 工业设备、变频器
- 电源装置
- 太阳能变频器

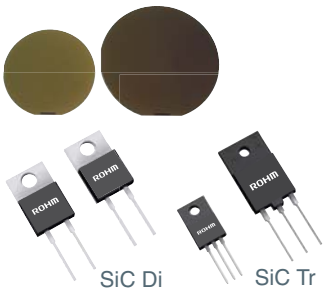


节能和小型化，SiC是下一代“环保元器件”

SiC 功率元器件

P.71 >

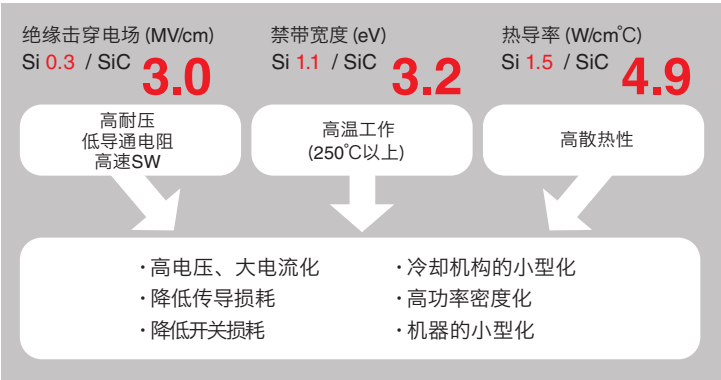
因其“高耐压”、“低损耗”等特点，在太阳能发电用功率调节器及工业设备电源等传统Si功率元器件做不到的领域有望得到运用。罗姆在全球率先量产能进一步降低SiC功率元器件损耗的双槽结构SiC-MOSFET，积极致力于对社会系统的小型化和节能化做贡献的SiC功率元器件的革新。



大幅降低电力损耗，耐热性高且小型化

是用于功率转换和功率控制的功率元器件。在领域内，SiC(碳化硅)作为下一代材料备受瞩目。与传统使用的Si(硅)相比，通过低导通电阻使得高速开关、高温工作的功率元器件成为现实。

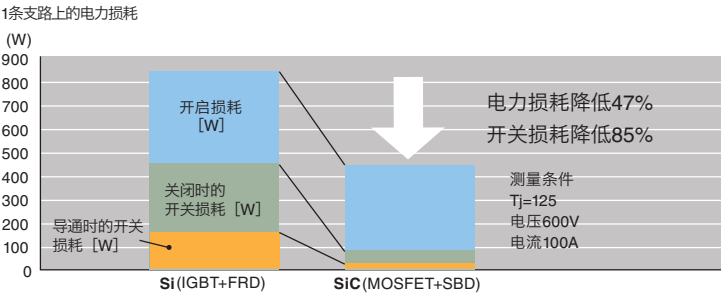
传统型半导体和SiC的性能差异



活跃在电源、汽车、铁路、工业设备、家用消费电子设备等各个领域的SiC功率元器件

通过SiC功率元器件，能让机器变得更小，功耗更低。因具备高耐压、高耐热性，使得之前不能使用的小空间和严酷环境下的安装成为可能。例如，用在太阳能发电时，电力损耗率可减少50%，有望为地球环境问题的缓解做出很大的贡献。

电力损耗比较

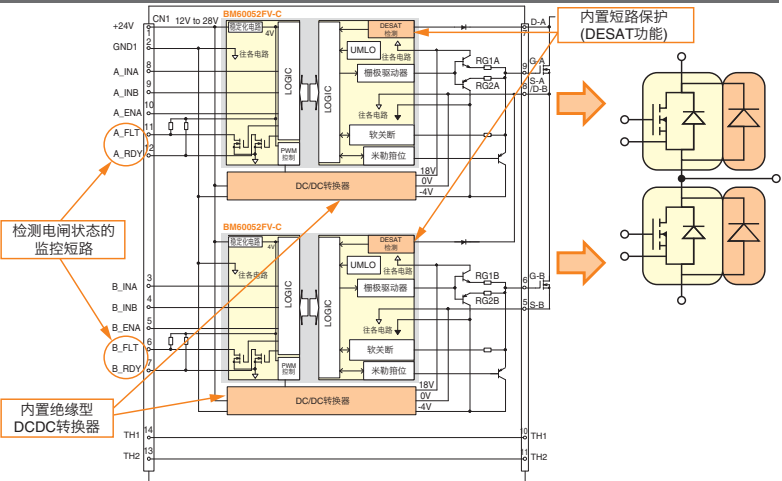


还确立了SiC的一条龙生产体制

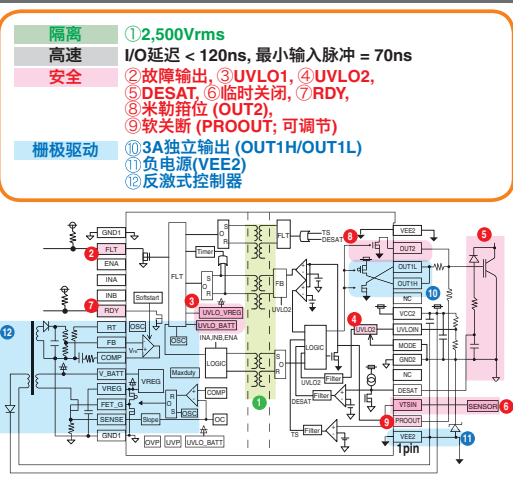
罗姆在SiC生产中确立了一条龙生产体制。
2009年将德国的SiC晶圆制造商SiCrystal公司纳入旗下之后，从晶圆到封装、模块等产品的所有工序均独立完成。



框图



驱动器IC功能



最适用于工业设备的宽广的产品阵容

降压DC/DC转换器系列 P.55

罗姆的降压DC/DC转换器通过输入电压和输出电流的产品矩阵，能提供满足客户需求规格的最佳电源解决方案。此外，还支持面向工业设备市场的产品长期稳定供应和250个装卷轴*的小批量生产。

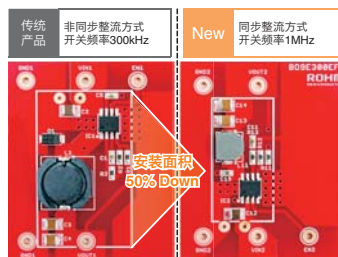
*支持部分产品



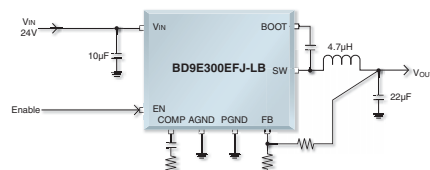
特性

- 支持多种输入电压的高效率产品阵容
- 同步整流方式无需外部二极管
- 耐高压实现省电、省空间电源

同步整流和1MHz动作实现省空间化



框图



产品系列

输出电流 (A)	控制器		BD95602MUV-LB		控制器
			BD95601MUV-LB		
	4.0		BD9327EFJ-LB		4.0
			BD9C301FJ-LB		
	3.0	BD9A301MUV-LB, BD9B301MUV-LB	BD9E303EFJ-LB		3.0
			BD9G341AEFJ		
	2.5		BD9E300EFJ-LB, BD9E301EFJ-LB		2.5
	2.0		BD9325FJ-LB		2.0
	1.0	BD9A101MUV-LB	BD9E100FJ-LB, BD9E101FJ-LB		1.0
	0.8	BD9106FVM-LB, BD9109FVM-LB			0.8
0.5	BD9161FVM-LB	BD9G101G		0.5	
	3.3	5.0	12	24	48
轨到轨输入电压 (V)					

轨到轨输入电压 (V)

轻松完成最适合FPGA的电源框图！

面向FPGA的表面贴装DC/DC模块

采用恒定时间控制，与传统方式相比实现业界最高效率的负载响应性，为提高系统的稳定性做出贡献。内置DC/DC模块所需的所有零部件，让系统上的电源设计更加简单。

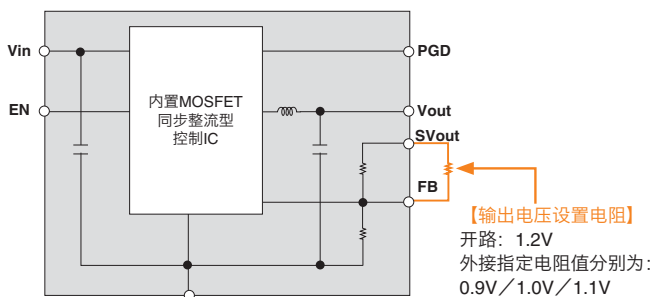
- FPGA板的背面也可安装(支持2次回流焊)
- 无需外接零部件
- 接受小批量(1卷250pcs)订货



仅需决定规格

就能轻松完成最适合FPGA的电源框图！

应用电路



含外接1ch降压型DC/DC，一体化封装
⇒还内置输入输出的电容器

规格概要

- 输入电压范围: 2.7V~5.5V
- 输出电压范围: 1.2V±3%(外接电阻使得0.9V, 1.0V, 1.1V可调)
- 输出电流 : 3A
- 开关频率 : 1MHz (Typ.)
- 恒定时间控制 DC/DC转换器
- 同步整流型
- 过电流保护
- 热关断
- UVLO功能

无需光电耦合器和辅助绕组，实现小型化

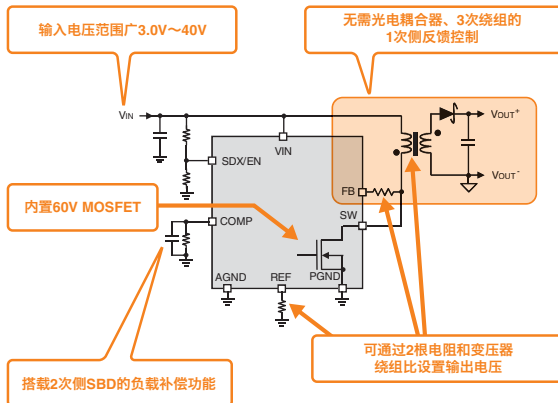
绝缘型反激式DC/DC转换器 P.57

绝缘型反激式DC/DC转换器通过一次侧的反激式电压控制能稳定二次侧的输出，因此无需超绝缘极限使用的零部件和易损耗零部件，提高AC/DC和DC/DC转换器的可靠性。

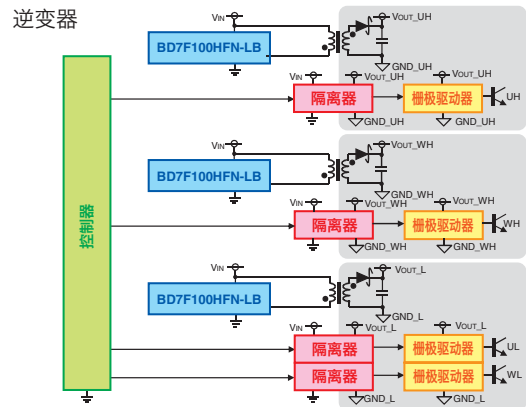
- 通过适应型恒定时间控制实现高速负载响应
- 通过自动轻负载模式，实现全负载领域的高效率
- 无需超绝缘极限使用的零部件，提高功能安全性
- 无需易损耗的零部件，实现长时间运转
- 支持交叉调整能力强的多输出结构



框图



使用案例



8ch低边开关、1ch/2ch低边开关

IPD(智能功率元器件) P.60

■ 8ch低边开关

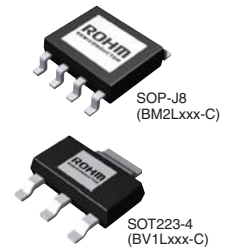
- 诊断功能
- 可进行SPI控制
- 低导通电阻 RON=700mΩ(Typ.)
- 内置保护电路
- 内置有源钳位电路
- 小型封装



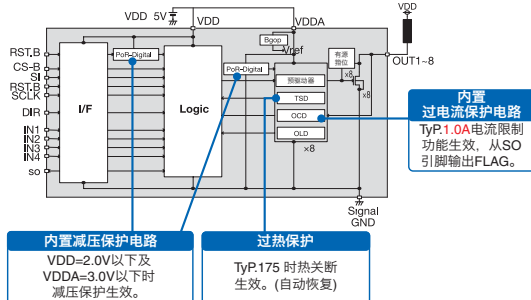
HTSSOP-B24

■ 1ch/2ch低边开关

- 内置有源钳位电路
- 保证低导通电阻(IN=3V)
- 内置保护电路

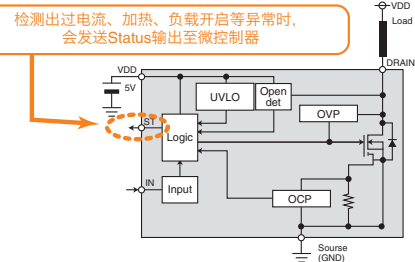


框图



框图

继电器线圈驱动用1ch低边SW



高速以实现稳定工作

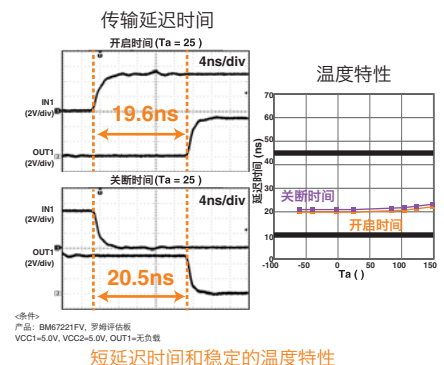
绝缘电压2,500Vrms隔离器 P.50

■ 高速驱动

内置绝缘变压芯片，拥有2,500Vrms绝缘电压，最大传输延迟时间45nsec的高速隔离器。使得高速数据传输成为可能。有2ch双向和单向产品阵容。



SSOP-B20W



短延迟时间和稳定的温度特性

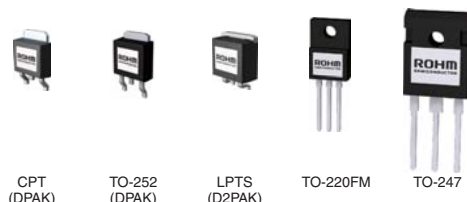
支持各种电源电路！

600V耐压 第2代 超级结MOSFET

P.77 >

采用最先进的高耐压工艺，实现业界最顶级的低导通电阻。与传统的Planar MOS-FET相比，导通电阻降低80%、QG(栅极电荷容量)降低40%。

除了标准型(AN 系列)之外，其产品还包括：低噪音型(EN 系列)、高速开关型(KN 系列)。

CPT
(DPAK)TO-252
(DPAK)LPTS
(D2PAK)

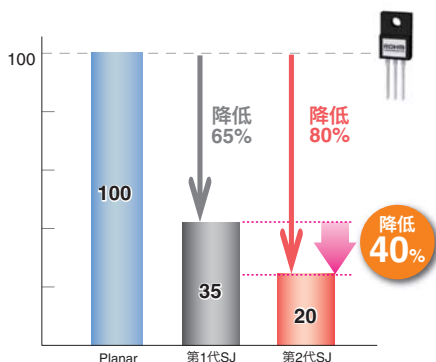
TO-220FM

TO-247

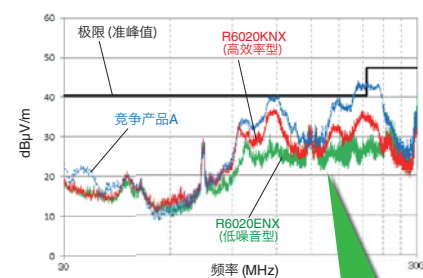
特性

低导通电阻 (AN 系列/EN 系列)

导通电阻对比 (TO-220封装)



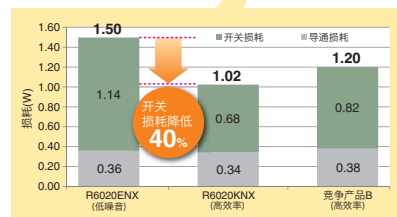
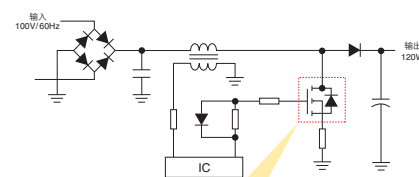
低噪音 (EN 系列/KN 系列)

辐射发射H (dB μ V/m) 100V/60Hz输入146W

EN系列的噪音非常小,
建议用于需进行抗噪的
电源电路上

高速开关以实现高效率 (KN 系列)

求值电路: PFC电路临界模式



以高速SW为特征的KN系列建议用于
进行低损耗高效率特别处理的电源电路上

通过一体化封装实现AC100~240Vrms系列电机控制

600V耐压 第2代 IGBT-IPM

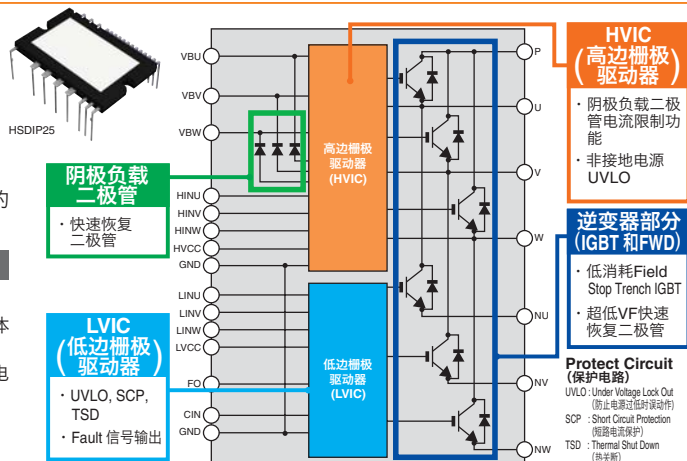
P.73 >

(智能电源模块)

将高效率控制电路内置于业绩显著的高耐压、低消耗功率驱动器(IGBT), 进行一体化封装, 让操作更加容易。已经为最大限度发挥驱动器所具有的高性能进行优化, 所以能极其简单且高效地实现电机应用。

特性

- 备有适合IGBT最优化设计低速/高速开关用途的2大系列产品
- 将IGBT、FWD(Free Wheeling Diode)、阴极负载二极管、栅极驱动器一体化封装
- 充实的保护电路(短路电流保护、电源电压低下保护、热绝缘电路)和保护电路动作时的FAULT信号输出功能



高耐压600V

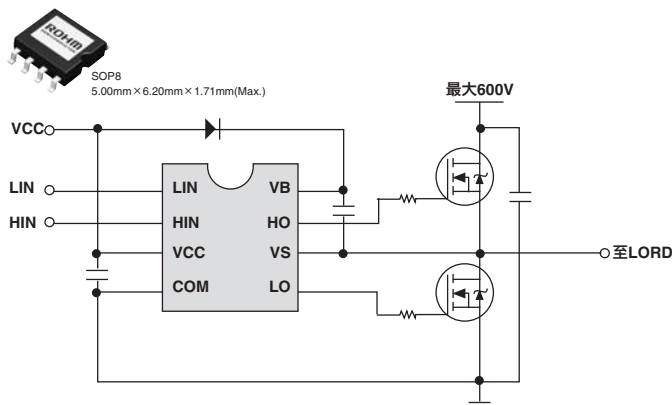
高边低边栅极驱动器

P.57 >

采用自举方式、可驱动外接Nch-FET及IGBT的600V高耐压高边/低边栅极驱动器。输入逻辑电源电压可使用3.3V及5.0V两种。作为保护功能, 在VCC-GND之间及VB-VS中搭载低输入误动作防止电路(UVLO)。

特性

- 浮动引脚耐压 +600V
- 栅极驱动器电压范围 10~18V
- 在双信道中搭载低输入误动作防止电路(UVLO)
- 可进行3.3V及5.0V的逻辑电压输入
- 输出信号与输入信号同相的用途



用于大电流组件中的电流检测

分流电阻器

P.89 >

它的特征是具有最适合要求大功率的组件电流检测用的“高额定功率”、“超低电阻”。

通过将高性能合金材料应用于阻体金属，即使在低电阻领域也能达到优秀的电阻温度系数(TCR)。

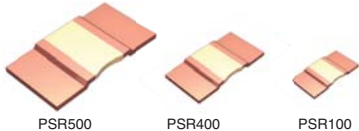
电阻范围快速参考
(零件号/毫米[英寸])

PSR GMR PMR PML 金属板

UCR LTR MCR 厚膜

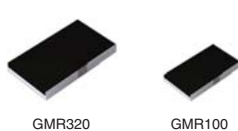
额定功率 (W)	电阻 [Ω]	1m	10m	100m	1	10
5	0.2m	PSR500 / 15x7.75[5931]	2m	10m	★GMR320 / 7142[2817]	220m
4	0.3m	PSR400 / 10x5.2[3921]	3m			
3	0.3m	★PSR100 / 6432[2512]	3m	10m	★GMR100 / 6432[2512]	220m
2		PML100 / 6432[2512]	1m	2.2m	10m	★LTR100 / 6432[2512]
1.5	0.5m	★PML50 / 5025[2010]	2.2m	10m	★LTR50 / 5025[2010]	910m
1		PMR25 / 3225[1210]	1m	5m	10m	LTR18 / 3216[1206]
		PMR18 / 3216[1206]	1m	5m		
		PMR50 / 5025[2010]	1m	10m		
	0.5m	PML18 / 3216[1206]	2.5m			
				47m	MCR100 / 6432[2512]	9.1

金属板 超低电阻/大功率型(PSR系列)

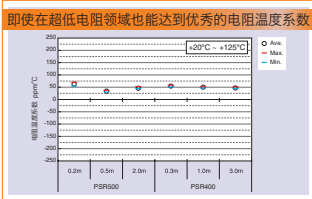
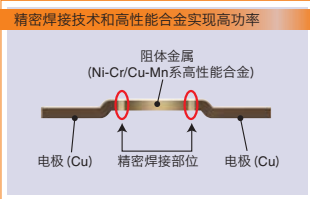


- 3W~5W级别的大功率
- 0.2mΩ~超低电阻
- 采用凸型形状
- 采用特殊合金，实现低TCR

金属板 低电阻/大功率型(GMR系列)

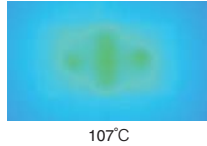


- 最大5W的大功率
- 独创的新结构，实现优秀的散热性和温度循环强度
- 采用特殊合金，实现低TCR

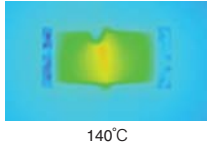


<表面温度比较>

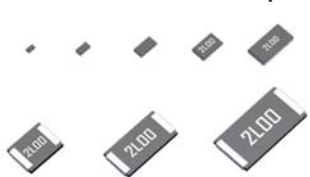
GMR100/10mΩ



其他公司产品 /10mΩ



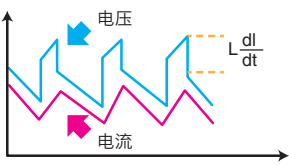
金属板 超低电阻型(PMR系列)



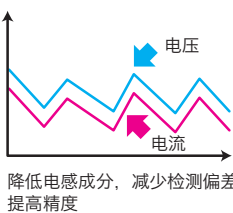
- 最大2W级别的大功率
- 采用罗姆独创的无微调结构
- 丰富的尺寸阵容

<采用无微调结构，提高电流检测精度>

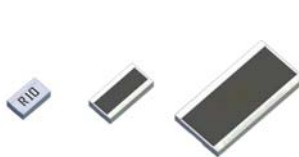
传统结构(有微调)



PMR系列(无微调结构)



厚膜 低电阻/长边电极型(LTR系列)



- 采用长边电极，与传统电阻器相比实现大功率
- 采用长边电极，提高温度循环的可靠性

<采用长边电极结构>



尺寸 (mm[inch])	MCR 低阻值系列	LTR 低阻值系列
2012 (0605)	0.25W	0.5W
3216 (1206)	0.25W	1W

提高至 2~4倍

适用于要求高可靠性的设备

抗硫化贴片电阻器

P.89 >

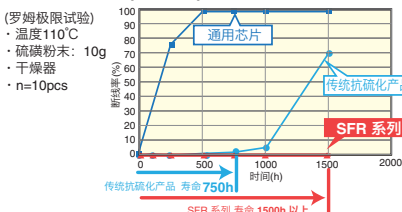
采用罗姆独创的结构，大幅提升抗硫化性。

2012、3216尺寸也即将上市。

产品阵容

类型	尺寸 (mm[inch])	额定电源	阻值容差	电阻值范围 (Ω)	电阻温度系数 (ppm/°C)	使用温度范围
SFR01	1005 (0402)	0.063W	J (±5%) F (±1%)	1~9.1(E24) 10~10M(E24) 10~2.2M(E24/96)	±200 ±100	-55~155°C
SFR03	1608 (0608)	0.1W	J (±5%) F (±1%)	1~9.1(E24) 10~10M(E24) 10~2.2M(E24/96)	±400 ±200 ±100	-55~155°C

抗硫化特性(断线率)

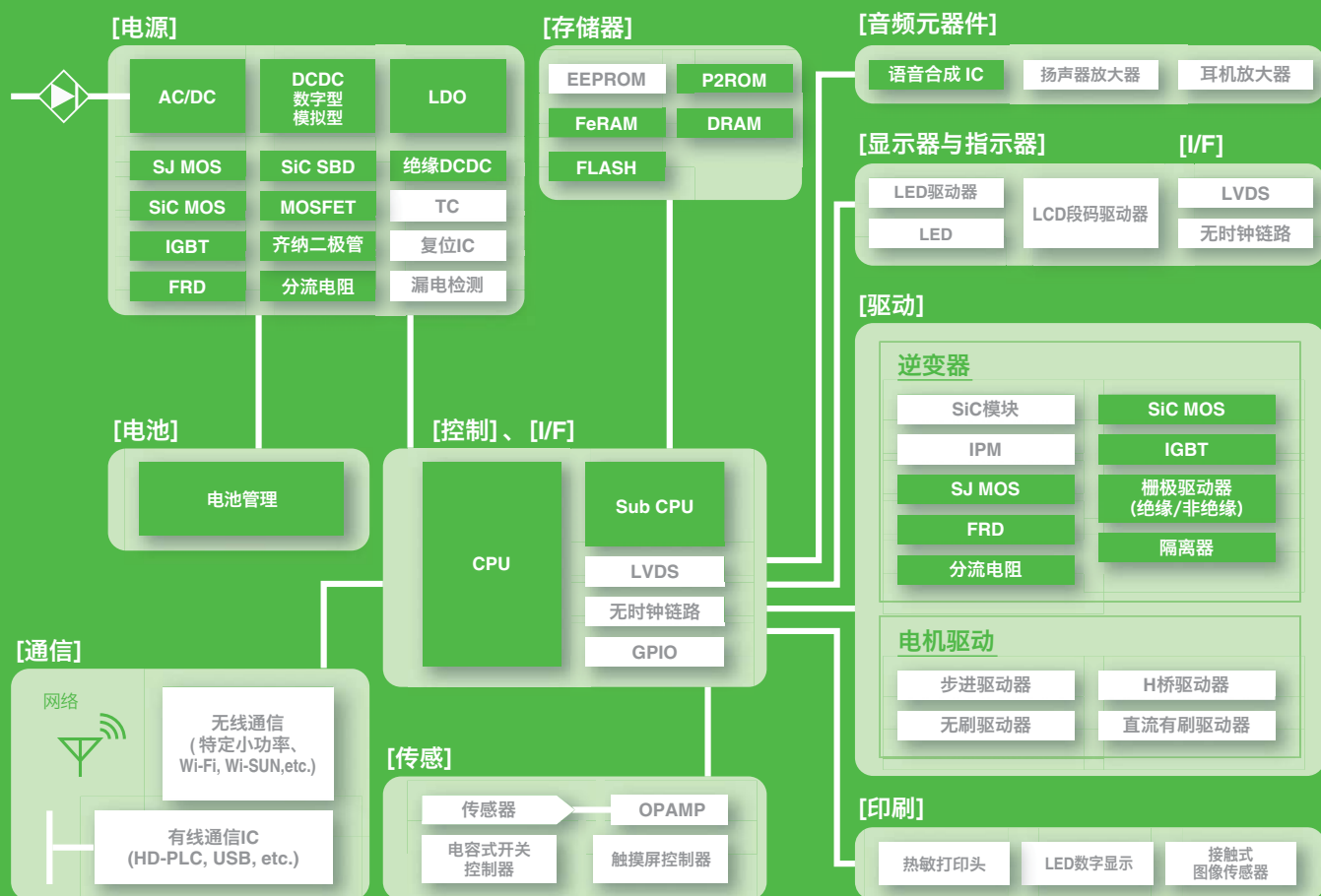


02:

Power Supply

电源装置

>> 框图





罗姆的功率器件为电源装置的“节能化” “小型化”“低噪音化”做出贡献

支配更大功率的电源装置被强烈要求实现高效率 and 降低无效功率。罗姆备有有效满足这些要求的元器件，针对小型设备到大型设备，备有丰富的产品线。

>> 推荐产品

锂离子电池监视LSI系列

作为蓄电器件，将搭载越来越多锂离子电池。LAPIS Semiconductor的电池监视LSI系列以支持大容量化、高压化、多单元化的丰富产品阵容，实现了业界顶级的高精度和低功耗。



蓄电元件(EDLC)电池平衡IC

通过能源回收市场、瞬低(瞬时电压低下)措施等扩大市场的EDLC(双电层电容器)。小型且安装简单，还内置放心保护功能的EDLC电池平衡IC产品推出。



SiC驱动用AC/DC转换器控制IC

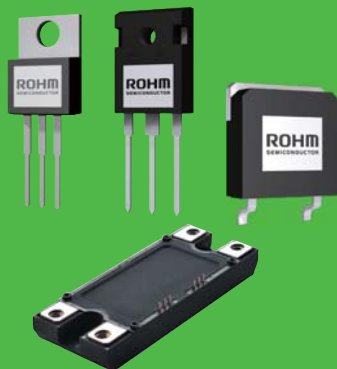
开发出了最适合工业设备中越来越受欢迎的SiC-MOSFET驱动的AC/DC转换器控制IC。用SiC功率半导体为要求减少零部件个数、小型化及省电化的AC/DC转换器市场创造了新的价值。



SiC 功率元器件

传统硅器件做不到的，实现高耐压、低损耗且高速开关的SiC功率元器件。罗姆于2010年构建了开发、量产体制。

从SiC-MOSFET到SBD、模块，我们用宽广的产品阵容来满足广大客户对功率元器件的需求。



>> 索引

21	锂离子电池监视LSI系列
21	蓄电元件(EDLC)电池平衡IC
22	AC/DC转换器IC系列
22	有源钳位 绝缘DC/DC控制器
23	SiC驱动用 AC/DC转换器控制IC
23	SiC-MOSFET
23	SiC-SBD(肖特基势垒二极管)
24	智能稳压器
24	低耐压MOSFET

采用80V高耐压工艺，支持串联达16节电池

锂离子电池监视LSI系列

P.58

能量密度高的锂离子电池今后有望展开至电动汽车、蓄电装置等领域，电池的大容量化和平台的通用化要求系统往高压化发展。LAPIS Semiconductor的电池监视LSI通过业绩丰富的混合信号电路技术和高耐压工艺，作为工业设备的多节电池用，实现了业界顶级的电池电压测量精度和低消耗电流，为系统的小型化和高可靠性做出贡献。



LQFP32 9×9mm

特性

实现业界最小低消耗电流

工作时

消耗电流较传统产品减少约50%为 $25\mu\text{A}$ (@Typ.值)，达到业界最小值，也为系统的节能做出了贡献。

电源中断时

继承业界最小低消耗电流 $0.1\mu\text{A}$ (@Typ.)。

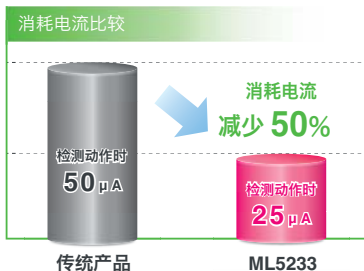
长期保管电池组的情况下也基本上不影响电池容量，不会造成充电后电池的浪费。

以业界顶级的电压检测精度提高充电效率7%

实现高精度的过充电检测。能以 $\pm 15\text{mV}$ 的精度检测出电池组内各节电池的电压，较传统产品的 $\pm 50\text{mV}$ ，电池的充电效率最大提升了7%。

通过微控制器实现了各种异常检测和保护功能，安装面积减少了20%

通过内置温度检测电路和短路电流检测电路，使得无微控制器下的充放电时异常温度(高温)检测和电池组的短路检测成为可能。这样一来，安装面积减少约20%，主要零部件个数从4个减少到1个。通过外接MOSFET、电流检测用分流电阻及热敏电阻器，可完全硬件化，不但促进了电池保护系统的小型化，还减轻了客户的开发负担。



ML5233的系统构成



支持4~6节电池串联

蓄电元件(EDLC)电池平衡IC

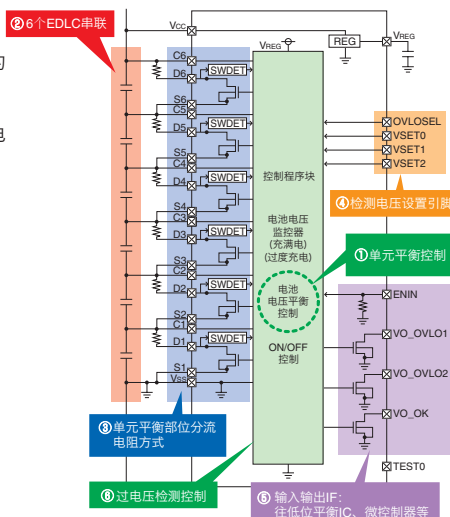
P.58

通过能源回收、瞬低(瞬时电压低下)措施等扩大市场，为EDLC(双电层电容)的稳定化、长寿化做出贡献的电池平衡功能单片化IC。无需再像传统产品一样担心每个分立构成的零部件的偏差，使得构建小型简单且高可靠性的EDLC系统成为可能。除了最大可控制6节电池的电池平衡功能之外，如果直接串联多个IC，还能支持更高电压的应用。

还搭载了短路检测和米勒钳位、栅极状态监视等各种各样的保护功能。

框图

- ① 自我完结型EDLC平衡功能
- ② 支持4~6节电池串联
- ③ 采用能简单平衡的分流电阻方式
- ④ 通过检测电压设置以支持各种各样输出电压的EDLC(2.4V~3.1V / 0.1V等级设置)
- ⑤ 通过IC的串联多段连接实现了便利的扩展性
- ⑥ 放心的控制控制/过载电压检测功能以及放心的电池安全检测功能

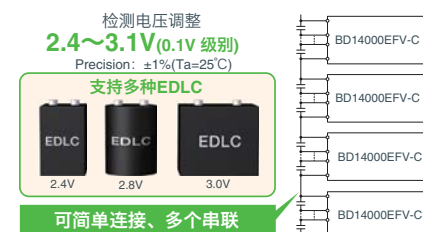
HTSSOP-B30
(10.0x7.6x1.0mm)

特性

■单片式以实现简单设计



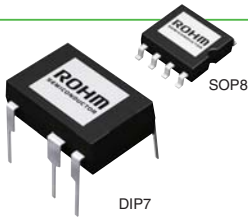
■便利的扩展性



内置650V耐压超级结MOSFET

AC/DC转换器IC系列 P.56

通过采用罗姆产超级结MOSFET，实现了业界最顶级的高效率和小型化。可从电流值和保护电路等丰富产品阵容弹性选择与应用匹配的产品。

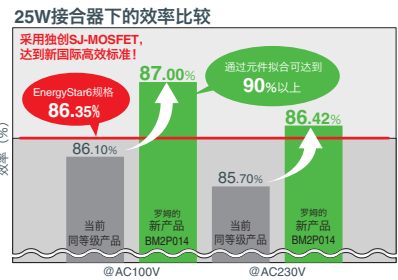


特性

高效率
可达到90%以上

实现高效率，
为机器的节能做出贡献

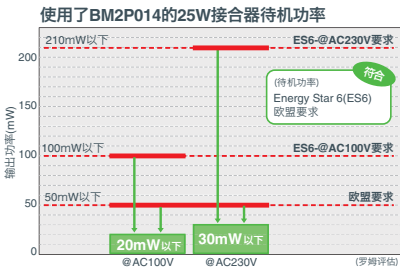
为提高效率，在采用高性能罗姆产超级结MOSFET的同时，最大限度地发挥了内置MOSFET特性的系列。



待机功率
大幅降低以达到低功耗

改善效率
使得待机功率也大幅减小

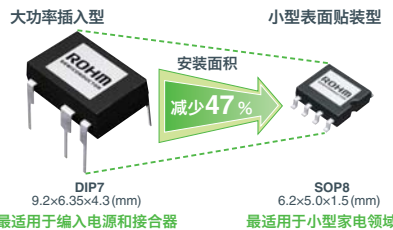
650V耐压的同时，通过实现了低导通电阻、低栅极电荷量、高速开关的功率MOSFET，为待机功耗的减少做出贡献。



实现
小型封装

通过低发热实现小型封装

通过采用与普通平面型MOSFET相比发热更少的罗姆产超级结MOSFET，成功实现了小型化。



内置高效率2次侧同步整流FET用器件

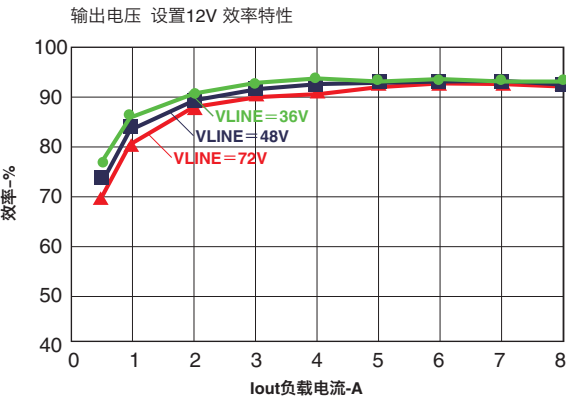
有源钳位绝缘DC/DC控制器 P.57

有源钳位方式、电流模式、绝缘型开关调节器用PWM控制器。
还搭载了1次侧MOSFET控制信号和可调时的2次侧同步整流MOSFET控制信号输出。
输入电源电压最大额定为20V,能将启动用外部调节器设置成大电压。

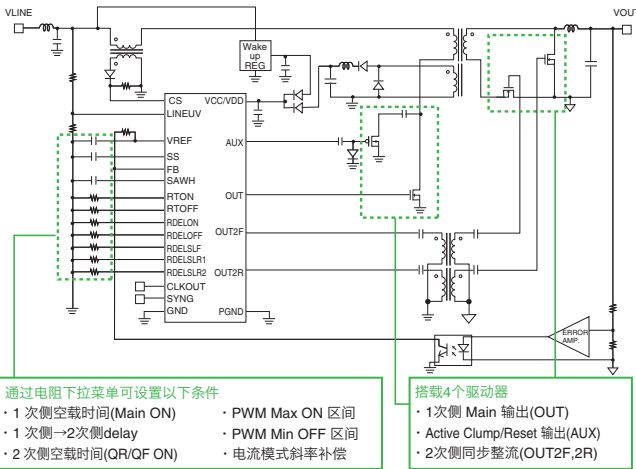


特性

- 通过电阻下拉菜单可设置条件
- 搭载4个驱动器
- 支持宽范围的输入电压(VCC端子/VDD端子Max.20V)
- 电流模式PWM控制
- 支持2种过电流保护系统(逐个脉冲电流控制、打嗝模式)
- 减压保护(LINEUV)、热关闭等异常时通过软关断功能防止2次侧SW、MainSW的异常电压/电流
- 搭载并行运行用同步功能以提高效率



框图



通过电阻下拉菜单可设置以下条件

- 1次侧空载时间(Main ON)
- 1次侧→2次侧delay
- 2次侧空载时间(OR/QF ON)
- PWM Max ON 区间
- PWM Min OFF 区间
- 电流模式斜率补偿

搭载4个驱动器

- 1次侧 Main 输出(OUT)
- Active Clamp/Reset 输出(AUX)
- 2次侧同步整流(OUT2F,2R)

最大限度发挥SiC的性能，为超省电、小型化做出贡献

SiC驱动用AC/DC转换器控制IC P.57

融合模拟设计技术和SiC的器件技。

最大限度发挥SiC的性能，为超省电、小型化做出贡献。

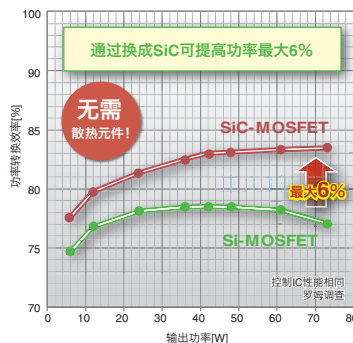


SOP-J8S

特性

- 最大限度发挥SiC-MOSFET性能的驱动器电路
- 采用低噪音、高效率的模拟共振方式
支持最大150W电源
- 搭载多个在高压AC690V下也能工作的保护功能

AC/DC转换器中Si和SiC功率比较



为超省电、小型化做出贡献



进一步向高耐压、高速、低导通电阻的下一代元器件发展

SiC-MOSFET P.72

同时实现硅器件做不到的高速开关和低导通电阻，即使在高温领域下也能显示优秀的电气特性。为大幅降低开关损耗和周边零部件的小型化做出贡献。

特性

- 备有650V、1200V、1700V*产品
- 低导通电阻和高速开关
- 寄生二极管的逆恢复动作极小

*开发中



TO-220AB

TO-247



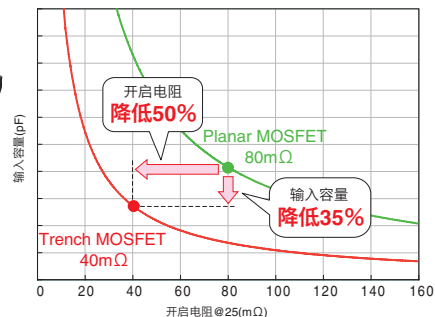
TO-268



C type

向下一代元器件进化

开发全球首次采用沟槽结构的SiC-MOSFET。成功确保采用独创结构的长期可靠性，并实现了量产化。相比传统产品，通过开发更低导通电阻的器件，降低了所有机器的电力损失。在全SiC模块的基础上推出新产品，不断推进650V、1200V级别分立产品的开发。



实现行业顶级的低V_F

SiC-SBD (肖特基势垒二极管) P.71

通过大幅度降低开关损耗和导通损耗，改善电力损耗率。

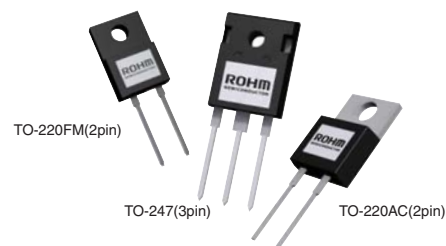
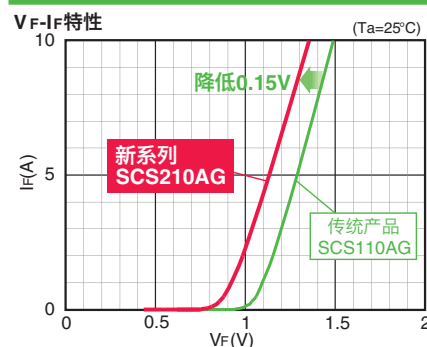
特性

- 行业最小级别的正向电压
- 高速恢复特性
- 大幅降低开关损耗
- 实现行业最小的低V_F

实现行业最小级别的低V_F

通过改善工艺和器件结构，保持低漏电流的同时，降低了正向电压。因阈值电压特别低，所以不受使用温度环境和电流值影响，有望改善低负载状态下的效率。

行业最小的正向电压1.35V



TO-220FM(2pin)

TO-247(3pin)

TO-220AC(2pin)

TO-220引脚兼容，无需内置线圈、外接零部件！

智能稳压器 P.94

TO-220引脚兼容，DC/DC转换器模块化。
节能、省空间的问题通过不变更基板进行置换得到解决。



- 高转换效率最大93%
- 无需散热设计
- 无需变更TO-220引脚兼容基板
- 可进行紧凑型设计，所需零部件全部内置
- 无需外接零部件

特性

特点 1

为需要节能的客户

提升电源转换效率

功耗减少约60%

	LDO	DC/DC转换器
输入	12.5w	5.5w
输出	5.0w	5.0w

※工作时间以1,440小时/年进行计算

特点 2

为因防止过热的
散热板尺寸而苦恼的客户

大幅度减少发热

LDO+散热片 HOT 90.3

3端子DC/DC(ROHM) COOL 46.2

因为效率高，
所以发热少
无需散热片，
还能支持大电流

特点 3

为因组件内
无安装空间而烦恼的客户

节省空间

1,000mA 输出时的安装面积比较

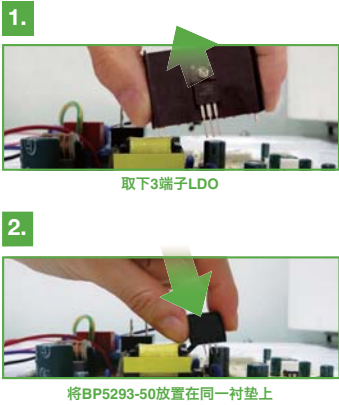
安装面积 1/9 以下 (本公司比较)

安装面积 1/3 以下 (本公司比较)

TO-220 LDO+散热片 智能调节器 普通DC/DC

因为是插入型，
所以能够
节省
基板面积

3端子LDO和引脚兼容
无需变更基板
最大负载电流1,000mA、3端子LDO和引
脚兼容，因此无需变更基板就能进行置
换。



最适合于24V输入系列 DCDC电源用电路

低耐压MOSFET P.82

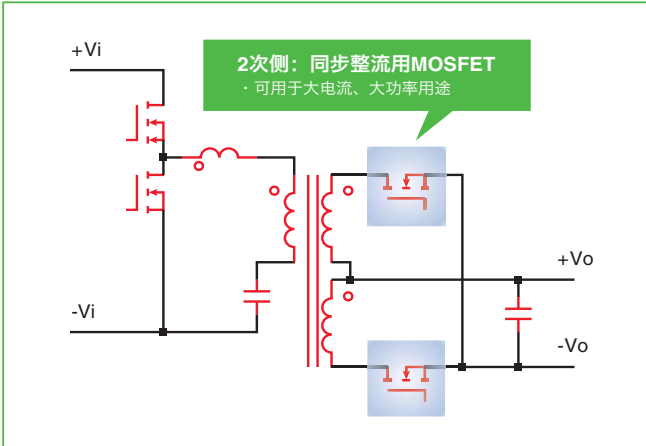
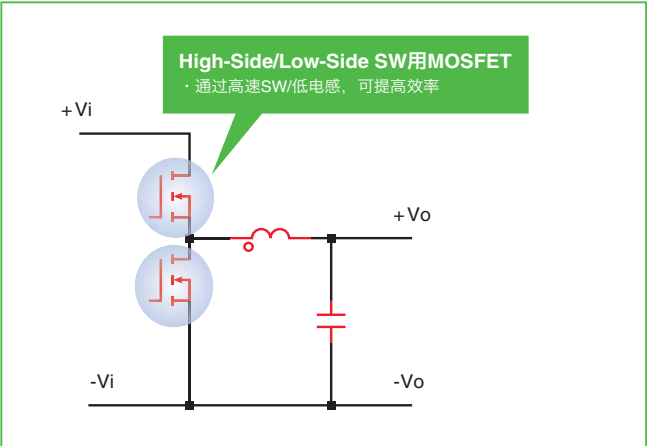
通过采用新工艺，较传统产品导通电阻和QG降低40%。
在实现行业顶级性能的同时成功降低了噪音，最适合工业设备中常见的DC24V输入系列的电源电路。

特性

- 改善性能指数(Ron · Qgd)约40%，实现行业顶级性能
- 最适合大型高功率工业设备和车载领域使用的DC24V输入电路的器件

DC/DC转换器电路

LLC谐振电路

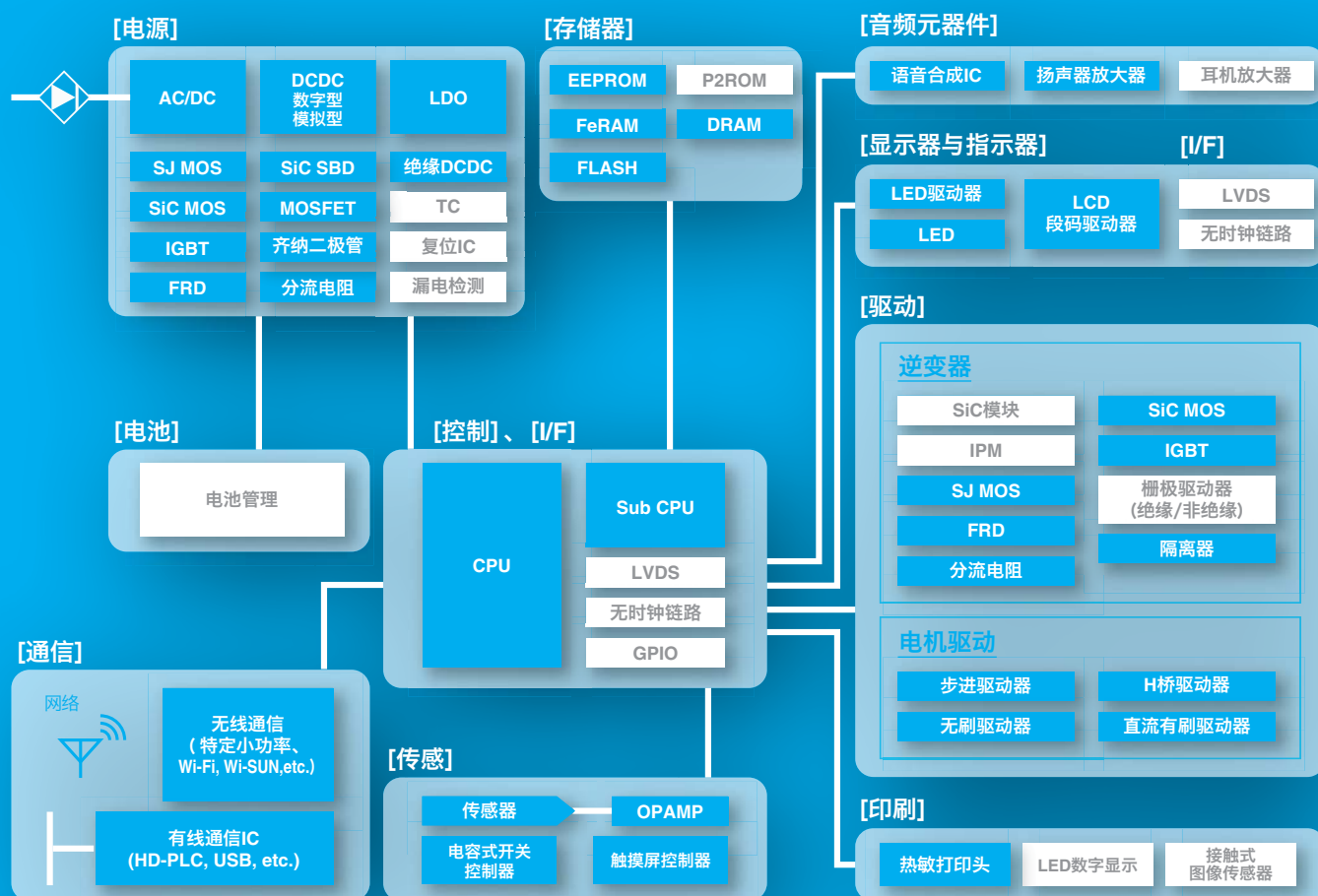


03:

Energy Management System

能源管理系统

>> 框图



针对HEMS、BEMS、FEMS 等EMS 提供系统级别的最佳元器件

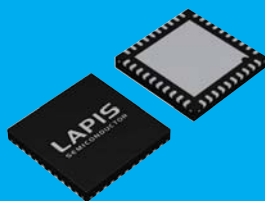
为了减少CO₂排放量，正在积极利用天然能源。
为毫无浪费地利用这些能源，需要更高效率的电力系统。
罗姆正在开发使系统自身达到更高效率的
电源IC、传感器、通信IC、MCU和电子元器件等产品。



>> 推荐产品

特定小功率无线LSI

让低功耗且长距离无线通信成为可能的特定小功率无线。罗姆集团的LAPIS Semiconductor作为日本唯一的无线LSI制造商，用行业顶级的低功耗、接收灵敏度和稳定的发送功率实现了高可靠性通信。



Wi-SUN模块

易连接的特定小功率无线中关注度很高的国际无线通信规格“Wi-SUN”。罗姆集团内发挥从IC到模块一条龙生产的优势，实现了高通信品质和行业顶级的接收灵敏度。



“HD-PLC” inside规格 基带IC

只要将电源插头插入AC插座就能轻松构建通信环境，无需变更系统结构即可实现网络化的HD-PLC。非常适合厚重建筑物等无线通信难以到达的建筑环境。



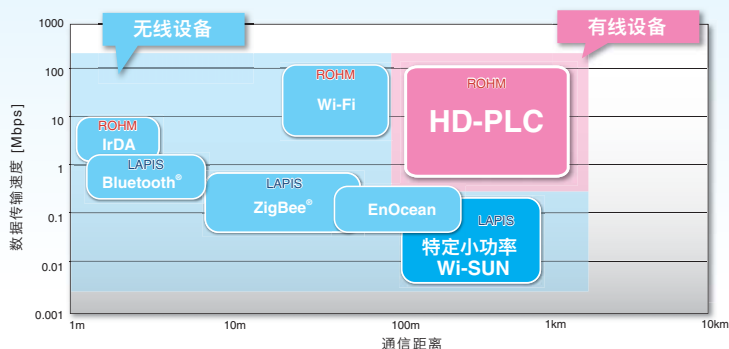
>> 索引

27	特定小功率无线LSI
28	Wi-SUN模块
28	“HD-PLC” inside规格标准 基带IC
29	LCD段码驱动器
29	LED数字显示器
30	支持2点触控 触摸屏控制器
30	电容式开关控制器

结合通信距离、数据量的最佳提案 满足所有需求 多种通信解决方案

实现有效管理和控制各种公共设施的智能社区时必不可少的通信技术。罗姆集团除了LAN、Bluetooth®外，还拥有Sub-GHz (特定小功率无线)、Wi-SUN、EnOcean等各种无线通信技术。而且还拥有以作为电力线通信被寄予厚望的HD-PLC为标准的通信IC技术，能够结合通信环境和通信距离、数据量等各种需求提供最佳的通信解决方案。

■ 罗姆的通信解决方案



以行业顶级的低功耗、接收灵敏度和稳定的发送功率实现高可靠性通信

特定小功率无线LSI P.64 >

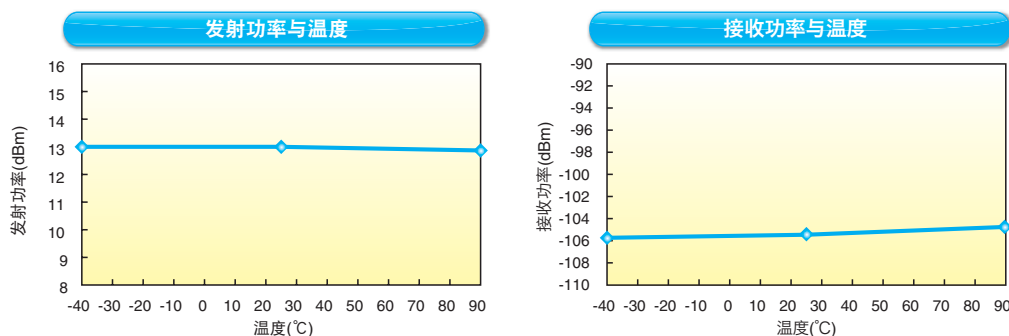
LAPIS Semiconductor的产品阵容包括面向遥测仪用、遥控用、数据传输用无线电站(429MHz、920MHz)，以及面向小功率安全系统(426MHz)的特定小功率无线电站的LSI产品。除了满足日本无线电法和各种规格之外，还以优秀的收发信特性为实现高品质稳定的无线网络做出贡献。



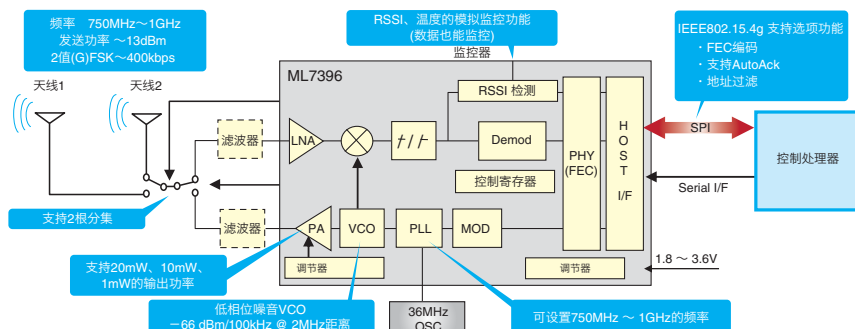
特性

- 对发送功率、接收灵敏度电压和温度的依赖小，实现高可靠性的通信范围
- ML7396系列拥有优秀的接收灵敏度，通过FEC功能进一步提高了灵敏度
- 通过采用高效率PA，最大输出能达到13dBm，并实现了发送时的低消耗电流

■ 受温度的影响小，实现一年四季稳定的通信



框图



长电波覆盖距离、低功耗

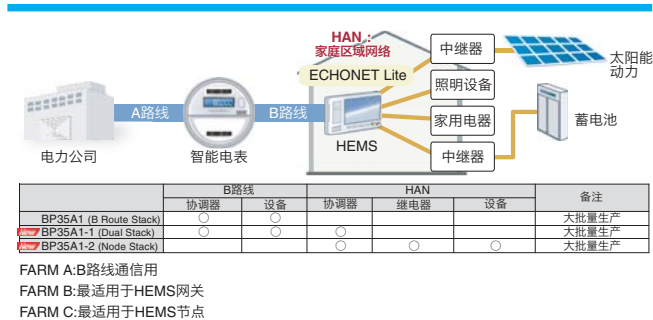
Wi-SUN模块 P.94

920MHz频段特定省电无线中，近年来最受人瞩目的国际无线通信规格“Wi-SUN(Wireless Smart Utility Network)”，因其具备低功耗通信距离长的优点，除了非常适用于智能电话和交通基础设施等智能社区外，还非常适用于M2M和IoT市场。

特性

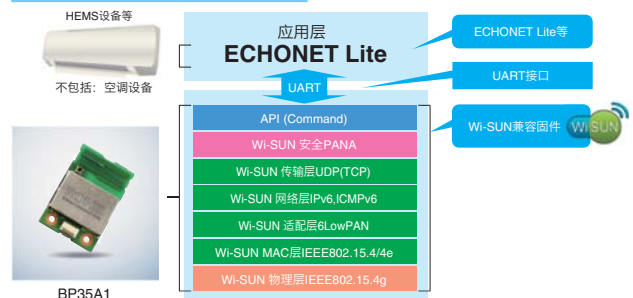
- 使用LAPIS Semiconductor产IC，实现行业顶级的接收灵敏度
- 以ARIB STD-T108为标准，已通过日本国内无线电法认证
- 国际无线通信规格标准Wi-SUN标准(Wireless Smart Utility Network)
- 发送功率已调整
- 920MHz频段无线，可实现远距离通信

应用示例

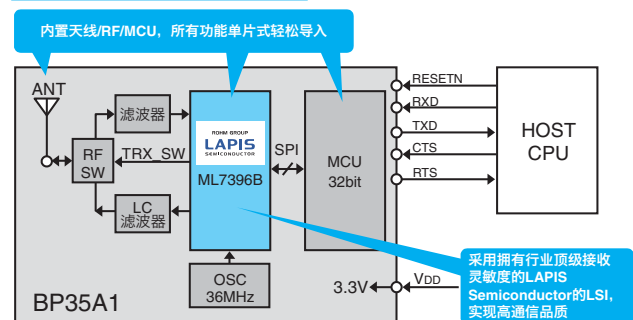


通过内置高规格MCU
在用户编程领域可支持各种HEMS设备！

软件栈结构框图



实现行业顶级的接收灵敏度



只需插入插座即可轻松构建通信网络

“HD-PLC” ※ inside规格基带IC [P.50](#)

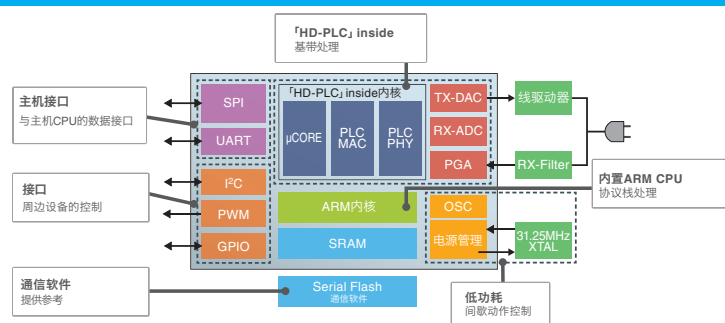
“HD-PLC”是能将现有电力线作为通信网络使用的有线通信规格。对安全面和串线导致的通信障碍、使用了钢筋混凝土及金属框架的建筑物等通信品质有可能低下的建筑环境有效。

特性

- “HD-PLC” inside规格基带IC
- 搭载TCP/IP协议栈
内置ARM内核。除“HD-PLC” inside基带处理外，还搭载了TCP/IP协议。减轻导入“HD-PLC”的负载。
- 搭载各种接口
搭载了各种传感器和LED驱动器及周边器件用的“I2C”“PWM”“GPIO”。通过内置CPU进行控制，使得简易的系统构建成为可能。
- 实现了低功耗
通过导入间歇动作功能，接收待机时的功耗比传统“HD-PLC” Complete规格降低至约30分之1。
- 最适合编入的主机接口
UART(Max.2Mbps) SPI Slave(Max.4Mbps)
- 提供通信软件的参考

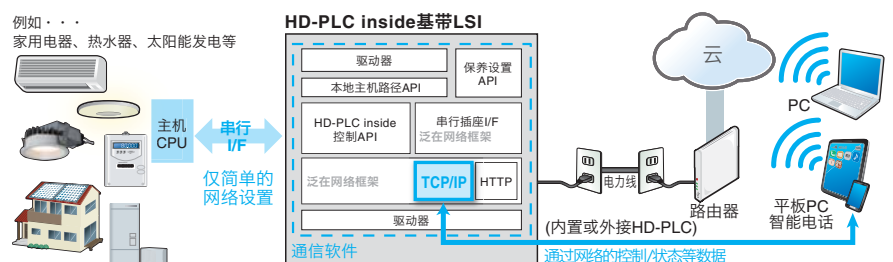
※ “HD-PLC”指的是以IEEE1901为标准的电力线通信

以“HD-PLC”inside规格为标准！



无需变更客户的系统构建就能实现HD-PLC

通过内置TCP/IP协议栈，无需大幅变更主机CPU侧的系统，就能经由PLC与网络连接。作为WEB服务器，除了确认状态之外，还能构建类似远程控制的应用。



实现了超低功耗！

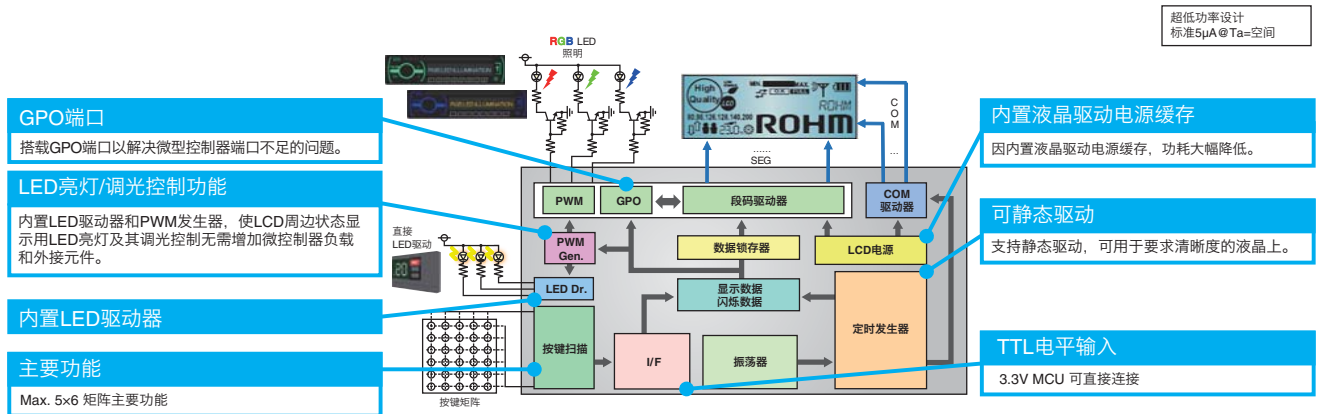
LCD段码驱动器 P.63

产品阵容丰富，实现了超低消耗电流。具备带调光功能LED驱动器、键盘扫描及GPIO等丰富的功能。

特性

- 通过超低功耗液晶驱动电路实现了惊人的消耗电流
- 配备了丰富的显示数和封装的产品阵容
- 内置可进行按钮检测的键盘扫描
- 内置可实现RGB LED照明的PWM输出

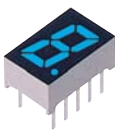
框图



丰富的使用业绩

LED数字显示器 P.93

罗姆的LED数字显示器有DIP型和表面贴装型，以及使用了4元素型高亮度LED的高亮度型。罗姆的7段码被大量用于时序器等的FA显示、游戏机等娱乐设备上。



框架铸型结构

框架铸型结构是将LED元件铆接在引线框上，与外壳组合后用树脂密封的结构。(参考图1)

LF-3011 系列
LA-301 系列
LA-401 系列
LA-501 系列
LA-601 系列

LAP-301 系列
LAP-401 系列
LAP-601 系列
LAP-602 系列

LB-402 系列
LB-502 系列
LB-602 系列
LB-603 系列

LBP-402 系列
LBP-602 系列

框架铸型结构	①	②	③	④	⑤	⑥
名 称	贴片	LED元件	金线	反射板	密封树脂	引线框
材 质	Ag+环氧树脂	(GaAsP on GaP) or (GaP) or (GaIn) or (AlGaInP)	Au	聚合树脂	环氧树脂	Fe (端子部位镀Sn-Ag-Cu)

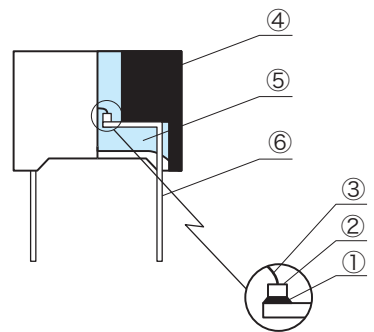
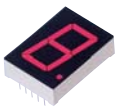


图1 框架铸型结构



基板铸型结构

基板铸型结构是将LED元件铆接在基板上，与外壳组合后用树脂密封的结构。(参考图2)

LA-801 系列
LA-101 系列

LB-302 系列
LB-303 系列

基板铸型结构	①	②	③	④	⑤	⑥	⑦
名 称	贴片	LED元件	金线	反射板	密封树脂	基板	引线端子
材 质	Ag+环氧树脂	(GaAsP on GaP) or (GaP) or (GaIn) or (AlGaInP)	Au	聚合树脂	环氧树脂	玻璃+环氧树脂	CP线 (端子部位镀Sn-Ag-Cu)

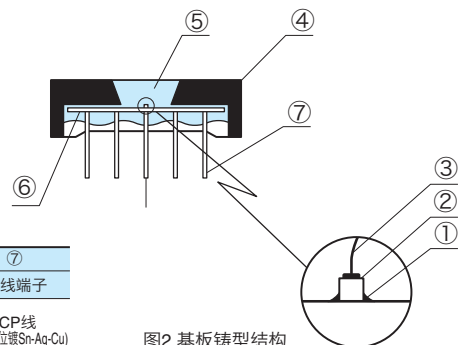


图2 基板铸型结构

4线式模拟电阻式触摸屏用

支持2点触控的触摸屏控制器 P.64

内置逐次型ADC，支持4线式电阻式触摸屏，可检测1点或2点的控制器。除了1点触控的X坐标/Y坐标的位置检测之外，还能进行笔压检测。而且还能进行仅2点的多点触控检测。

特性

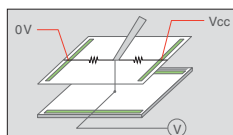
- 利用现有4线式模拟电阻式触摸屏，还能进行2点检测和手势检测
- CPU内置型、AFE型、1点控制器的产品阵容开发

转换系统

按钮输入 (1点) 的
菜单操作



现有控制器只能
检测出1点



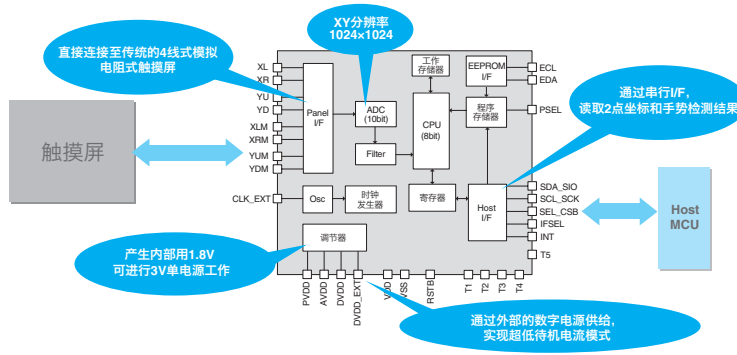
现有4线式模拟电阻式触摸屏中，向X方向施加电压，在Y方向上测量，向Y方向施加电压，在X方向上测量，通过各自的测量值能够检测出面板上的触摸坐标。

罗姆的2点触摸屏控制器系统

使用手势输出
(2点)操作快捷



■框图



实现了高灵敏度且强抗噪性触控开关

电容式开关控制器 P.64

通过独创的用户接口控制技术，在拥有高灵敏度的同时实现了行业顶级抗噪性的电容式开关控制器IC。通过置入间歇动作，还实现了低功耗，最适用于工业设备机械开关的置换等。

特性

- 通过传感器检测出手指的触摸，转化为电容变化使开关动作
- 搭载LED调光功能、长按功能、自动校准功能
- 搭载消除噪声、消除偏置、消除温度漂移等控制功能



VQFN24 (VQFN024V4040)



VQFN28 (VQFN028V5050)

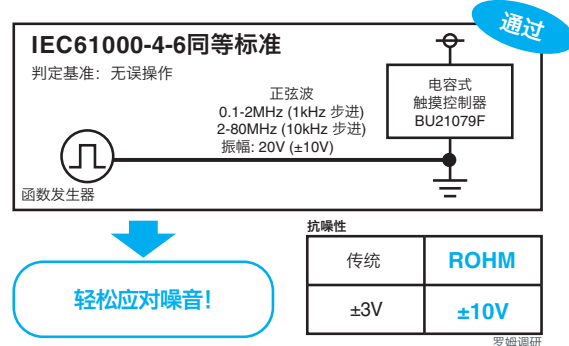


VQFN20 (VQFN020V4040)

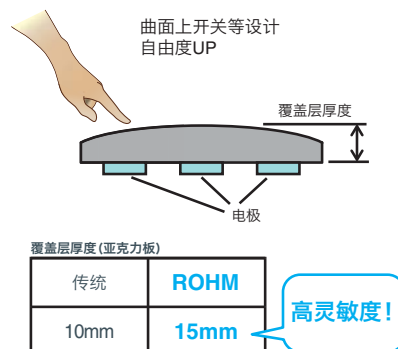


SOP16

行业顶级高抗噪性能



不受噪音影响，能进行高灵敏度检测

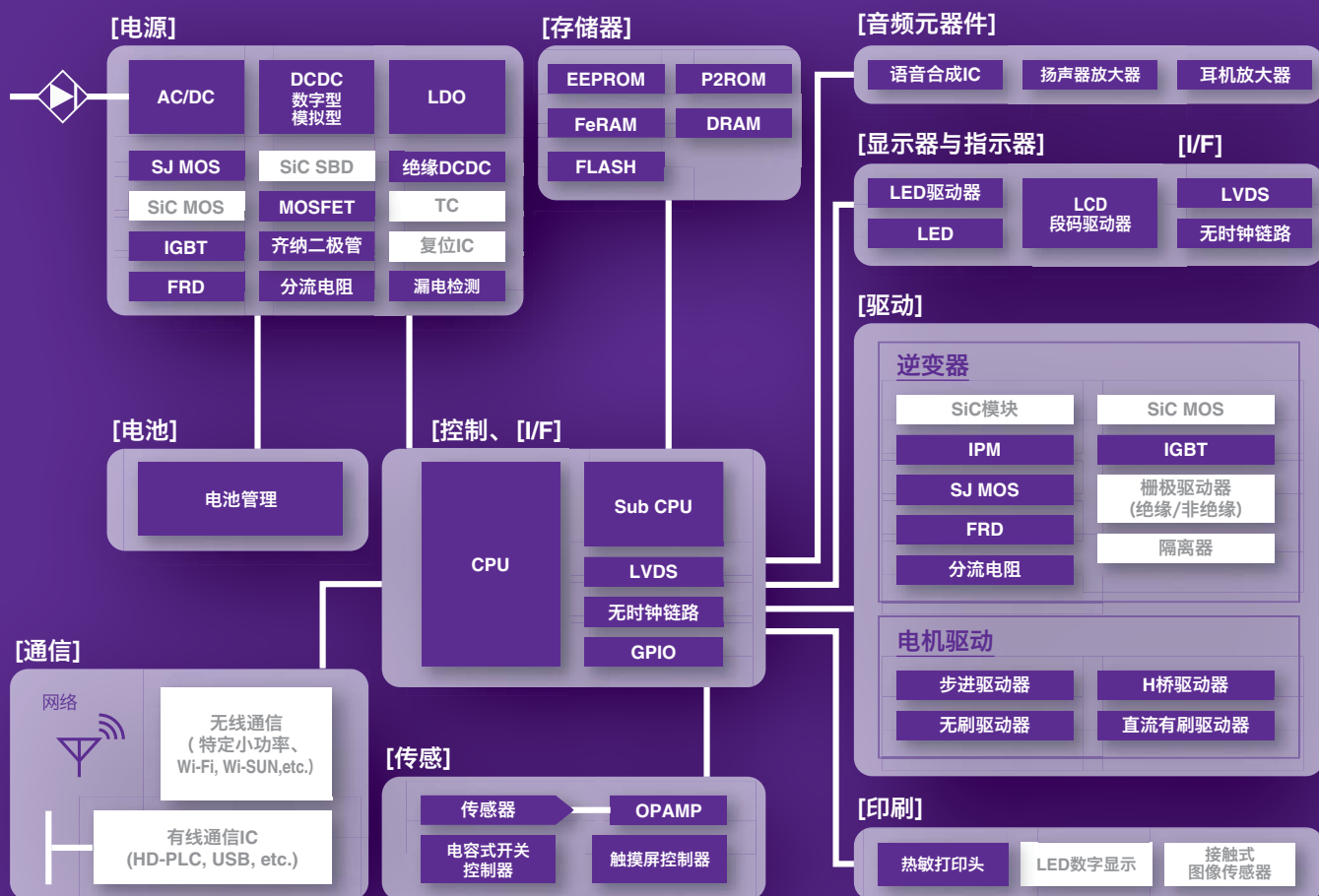


04:

All Industry

所有工业设备

>> 框图



面对工业设备市场的多样化需求，
以IC、分立半导体、无源元件及模块等
宽广的产品阵容迎接挑战



>> 推荐产品

降压DC/DC转换器系列

罗姆的DC/DC转换器系列拥有丰富的产品阵容，能支持各种各样的应用。高耐压、高效率、小型的罗姆电源IC被广泛使用。



低功耗微控制器

最适合工业设备简易控制的低功耗微控制器。其产品阵容除了运用LAPIS Semiconductor的超低功耗技术优势，用一个纽扣电池实现长时间驱动的8bit低功耗微控制器之外，还包括处理能力提升的16bit低功耗微控制器以及强抗噪、强耐高温处理能力提升的16bit低功耗微控制器。



>> 索引

33	数字电源 降压DC/DC转换器
34	低功耗微控制器
34	存储器系列
34	降压DC/DC转换器系列
35	超低 I_R 肖特基势垒二极管 (SBD)
35	音频IC D类扬声器放大器/耳机放大器
36	音频LSI 语音合成LSI
36	接口 【LVDS】 【Clockless Link】
36	GPIO
37	电源管理开关
37	漏电检测IC
37	光斩波器
38	步进电机驱动器
38	H桥电机驱动器
38	三相无刷电机预驱动器
38	风扇电机驱动器
39	LED驱动器
39	热敏打印头

用数字进行智能、简单的电源管理

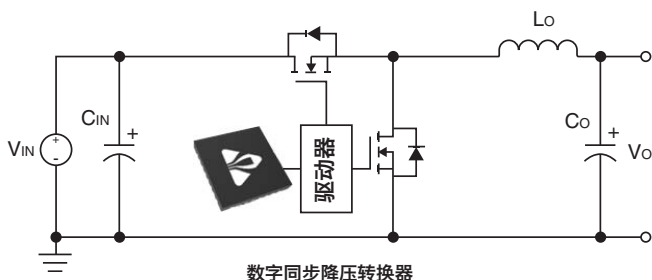
数字电源 降压DC/DC转换器

P.56 >



ROHM POWERVATION的数字电源搭载专用开发的DSP和RISC两个引擎，通过先进的实时自动协调技术，不仅达到了优秀的负荷跟踪特性，还可校正因零部件老化导致的特性变化，提高了可靠性。

框图



支持数字/多相位的降压DC/DC

输入	12V (典型值)
输出	0.6 V 至 5 V
	~15 A 至 ~30 A $\phi 1$ 控制器
	~30 A 至 ~60 A $\phi 2$ 控制器
	>60 A 多个控制器 (并联)

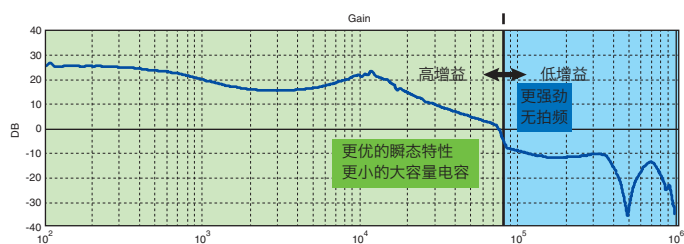
智能控制器引擎

独立设计支持多种电源应用的DSP和RISC，并将先进的控制运算法则搭载至该平台上，实现了超越其他模拟方式和数字方式的性能。



xTune™ 先进的自动协调

通过持续监视并实时校正输出电压的过渡性变化和零部件老化导致的特性变化，轻松实现卓越的输出稳定性并为可靠性提高做出贡献。



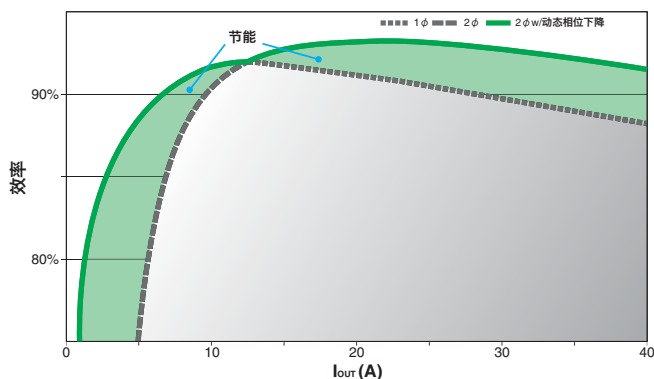
PowerSMART™ 设计工具

客户完全无需进行复杂的计算和繁琐的编码。PowerSMART GUI工具是任何人都能直观简单操作的工具，通过它能设置各种参数，快速确认和调试动作，为客户产品的Time to Market提速。



智能效率管理™

它能根据负载状态自动切换相位，无论是轻负载还是重负载都能实现最大效率，推进低功耗化。

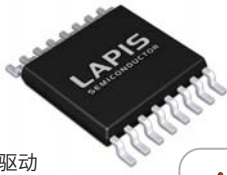


从移动设备到高抗噪性产品，种类丰富

低功耗微控制器

P.67 >

其产品阵容除了运用LAPIS Semiconductor的超低功耗技术优势，用一个纽扣电池实现长时间驱动的8bit低功耗微控制器之外，还包括支持工业设备处理能力提升的，兼顾超低消耗和高性能的16bit低功耗微控制器。而且还开发了面向电机、压缩机和加热器等存在噪音问题的机器的强抗噪、强耐高温的低功耗微控制器。该产品在国际规格“IEC61000-4-2”的噪音试验中达到最高等级，无需其他抗噪措施。





节能
No.1^{*}

8bit
低功耗
MCU

16bit
低功耗
MCU

^{*}LAPIS Semiconductor调查

特性

1. 行业顶级的超低功耗

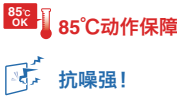
<用一个按钮电池就能长时间工作>

- 低电压工作：1.1V~
- 低消耗电流：0.45 μ A @HALT模式
250 μ A/MHz @高速工作时
- 丰富的功率管理功能：
支持多个低功耗模式
时钟齿轮
未使用模块的软电源关断控制



2. 抗噪性强和耐高温的微控制器

- 强抗噪性：电源噪音和信号线噪音的双重抗噪
- 工作温度：-40°C~+105°C



3. 本公司制造商生产，长期稳定供应

LAPIS Semiconductor宫城



· 晶片工序

LAPIS Semiconductor宫崎



· 晶片工序 · 组装/检测工序

高可靠性、长期稳定供应、短交期、迅速应对

存储器系列

P.41 >

我们拥有丰富的产品阵容，包括长期稳定供应以消除客户供应疑虑的“传统DRAM”、缩短准备周期的独创“P2ROM”、写入次数1兆次、写入速度150n秒的非易失性存储器“FeRAM”、高数据保持性的“NOR Flash”等，并为产品开发提供快速且细致的支持。



易失存储器

- **FP/EDO DRAM**
4Mb/16Mb/64Mb, 5V/3.3V
- **SDRAM**
16Mb - 256Mb, 3.3V
- **DDR1/DDR2**
256Mb, 2.5V/512Mb, 1.8V
- **FIFO memory**
3Mb, 4Mb, 5Mb, 6Mb, 10Mb, 26Mb, 5V/3.3V

非易失存储器

- **EEPROM**
I²C BUS Microwire BUS SPI
BUS 超小型WL-CSP Plug & Play
EEPROM
- **FeRAM**
Parallel, SPI, I²C 32Kb-2Mb
- **NOR Flash memory**
Parallel, SPI 128Mb-512Mb, 3.3V
- **游戏机用ROM**
62Gb-124Gb, 3.3V
- **P2ROM**
NOR Flash compatible
Parallel 8Mb~256Mb, 3.3V
SPI 16Mb~128Mb, 3.3V

最适用于工业设备的宽广的产品阵容

降压DC/DC转换器系列

P.55 >

- 面向工业设备市场的产品长期稳定供应
- 支持多种输入电压的高效率产品阵容
- 支持250个装卷轴^{*}
^{*}支持部分产品



产品系列

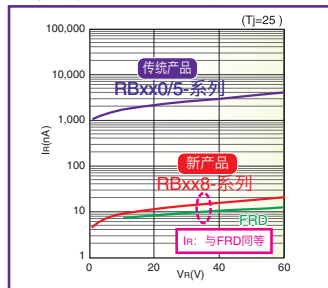
输出电流 (A)	控制器		BD95602MUV-LB		控制器
			BD95601MUV-LB		
	4.0		BD9327EFJ-LB		4.0
	3.0		BD9C301FJ-LB		3.0
		BD9A301MUV-LB, BD9B301MUV-LB	BD9E303EFJ-LB		
			BD9G341AEFJ		
	2.5		BD9E300EFJ-LB, BD9E301EFJ-LB		2.5
	2.0		BD9325FJ-LB		2.0
	1.0	BD9A101MUV-LB	BD9E100FJ-LB, BD9E101FJ-LB		1.0
	0.8	BD9106FVM-LB, BD9109FVM-LB			0.8
0.5	BD9161FVM-LB	BD9G101G		0.5	
	3.3	5.0	12	24	48
输入轨道电压 (V)					

超低 I_R 不会热失控 小型大电流化超低 I_R 肖特基势垒二极管(SBD) P.79 P.84

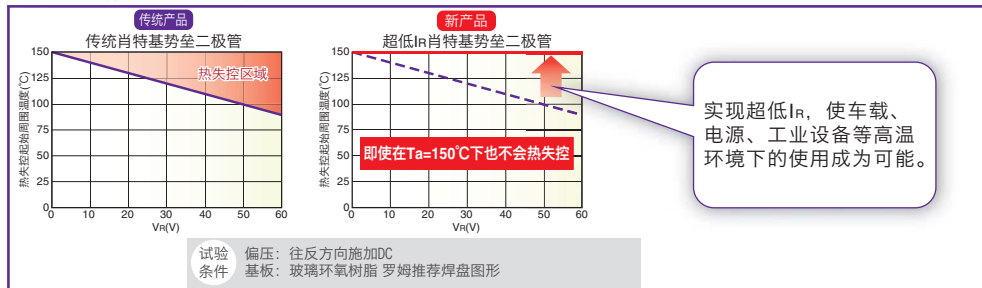
不断有新机型上市 中型、小型产品也非常丰富
采用新势垒金属，大幅减少泄露

特性

- 通过低VF化大幅节省空间
- 通过低 I_R 化减少约40%损耗
- 高温环境下不会热失控

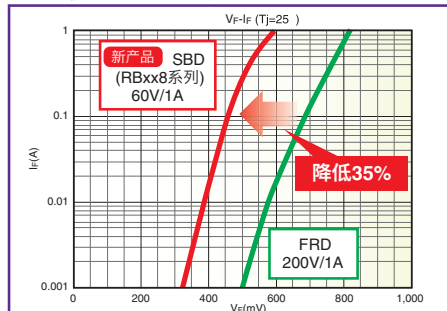
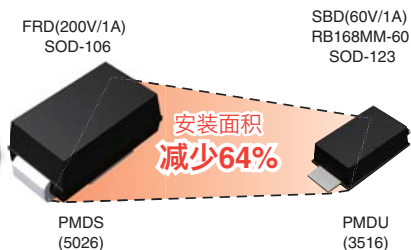
超低 I_R 在 $T_a=150^\circ\text{C}$ 下不会热失控 I_R 比较 传统SBD vs RBxx8系列

热失控对比 传统SBD vs RBxx8系列



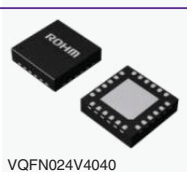
通过低VF化实现小型化

VF-IF比较 FRD vs RBxx8系列

控制发热
实现小型化音频IC P.65

■ D类扬声器放大器

支持大范围电力电压($V_{CC}=8.5\text{PD}24\text{V}$)，是超小型低噪声D级扬声器放大器。



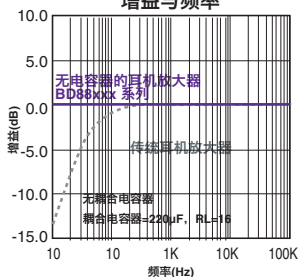
VQFN024V4040

■ 耳机放大器

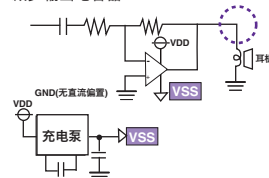
因无输出电容器，不存在低音域下的等级衰减，从而实现了丰富的低音。

无输出电容器所以没有低频衰减

增益与频率



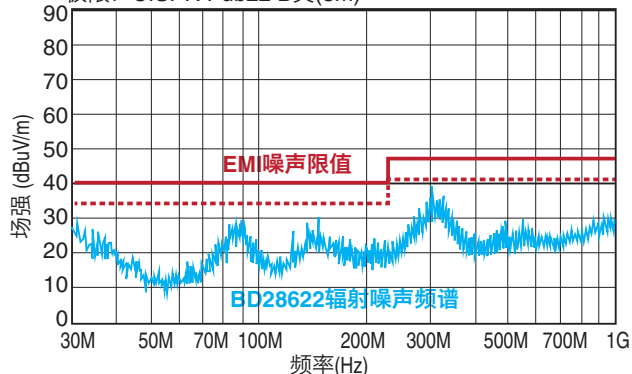
使用电荷泵的负电源内置型，减少输出电容器



因不存在低音域下的等级衰减，实现丰富的低音

辐射发射

极限: CISPR Pub22 B类(3m)



扩频技术

发射噪声: 通过
传导噪声: 未通过(分析中)

$V_{CC}=12\text{V}$, $R_L=80\text{m}(\text{Lch})+80\text{m}(\text{Rch})$
 $P_o=1\text{W}(\text{Lch})+1\text{W}(\text{Rch})$
扬声器电缆=50cm(Lch)+50cm(Rch)
铁氧体磁珠

音频LSI **P.66** >



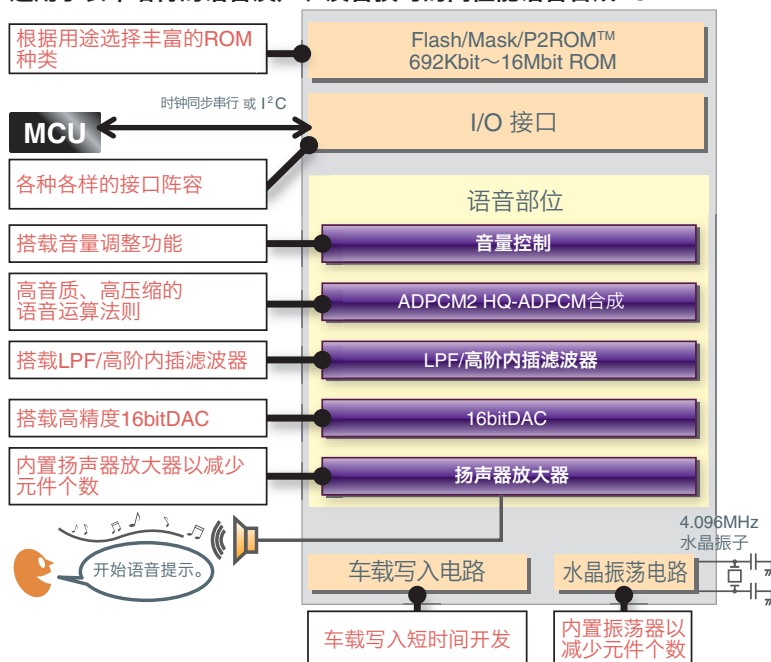
■ 语音合成LSI

除了语音压缩拉伸、音响处理、各种数字滤波器、放大器等各种声音技术之外，通过与FlashROM等周边技术的融合，可提供各种各样的产品。拥有适用于提示等长时间语音播放、小容量短信和报警音播放的ROM内置系列等丰富的产品系列。

日本国内市场占有率No.1※
客户30多年的眷顾证明了我们的支持能力
※LAPIS Semiconductor调查

致力于满足时代需求的机种开发
从简单发声型到高性能的丰富产品阵容

运用了长年培育的语音发声、发音技巧的高性能语音合成LSI



用更少的配线和更低EMI实现高速数据通信

接口 【LVDS】 【Clockless Link】

■ LVDS SerDes

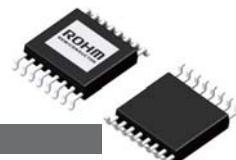
- 配线量减少至1/3
- 支持广泛工作频率范围从8MHz到150MHz
- 支持从35bit到70bit的传输比特数串行器/并行器
- 最大1.218Gbps/Lane的高速数据传输

■4bit LVDS驱动器、接收器

- 最大250MHz工作
- 低振幅模式以实现低EMI

■Clockless Link接口

- 通过数据串行化, 用1对差分线路进行传输
- 实现低功耗和低EMI化
- 减少配线量至1/10以下
- 罗姆独创的CDR(Clock Data Recovery)方式
- 比起LVDS SerDes, 更能应对高速和长电缆环境



按键编码器LSI

GPIO

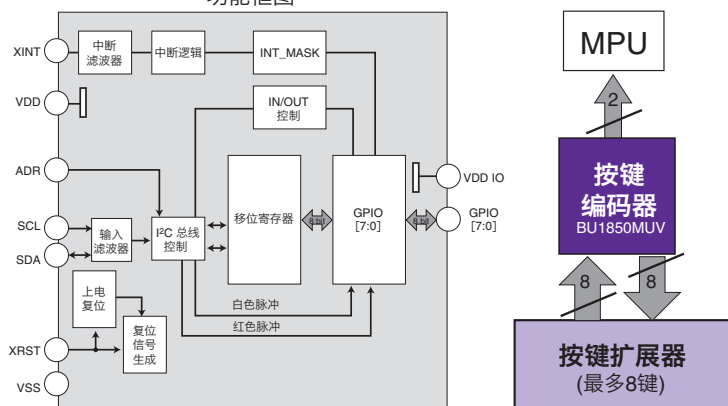
GPIO扩展是IO板扩展IC。 VQFN016V3030
对IO端口经常不足的应用非常有效。



特性

- 8端口GPIO输出
- 电源电压 1.65V~3.6V
- I²C I/F
- 待机电流3 μ A以下
- 内置功率偏置
- 3mm×3mm QFN封装

功能框图

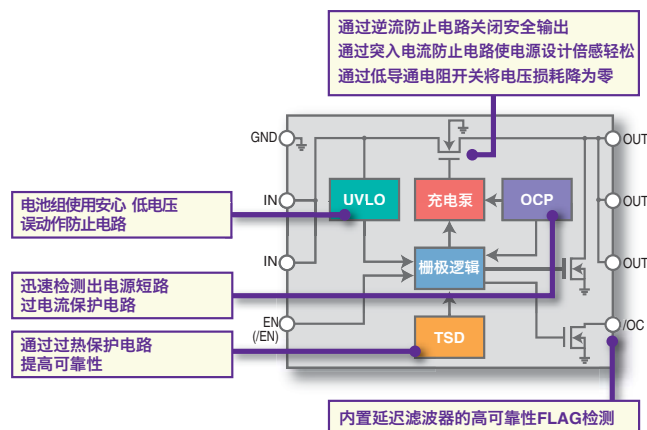


将低导通电阻开关和各种保护功能内置于单芯片上

电源管理开关 P.58

最适合USB端口/卡插槽等外部电源端子保护的电源保护IC。内置低导通电阻MOSFET、周边电路，轻松实现电源管理。内置过电流保护功能。控制输入可选择H有源或L有源。

框图



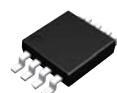
SSOP5



SSOP6



SOP-J8

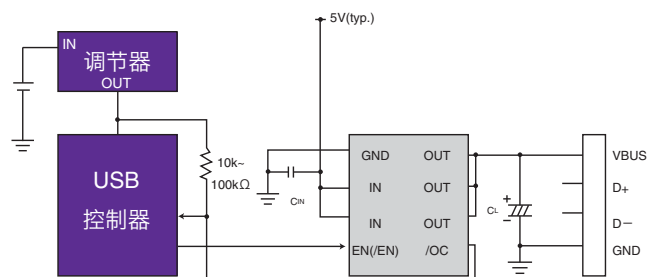


TSSOP-B8J

特性

- 最适合USB电源/存储卡的高边电源开关
- 内置过电流保护、过热保护等各种保护电路
- 过电流检测值、输入理论等丰富的产品阵容
- 通过外接电阻能调整过电流检测值

应用电路示例



业界最小级别的消耗电流

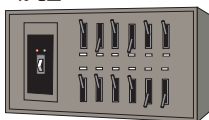
漏电检测IC P.58

罗姆的漏电检测IC实现了低消耗、高可靠性。
可用于分电盘、漏电继电器和工业设备等广泛应用。

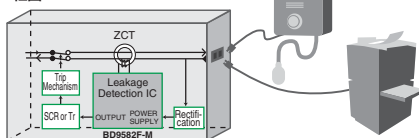
特性

- 低消耗电流: 330 μ A
- 宽工作温度范围: -40°C~+105°C
- 高灵敏度输入、温度偏差小

分电盘

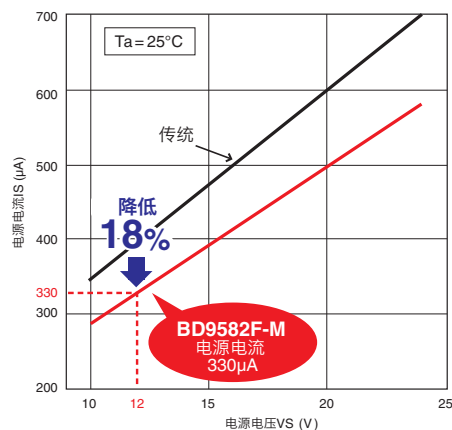


框图



S0P8

特征



中间槽宽产品的表面贴装型

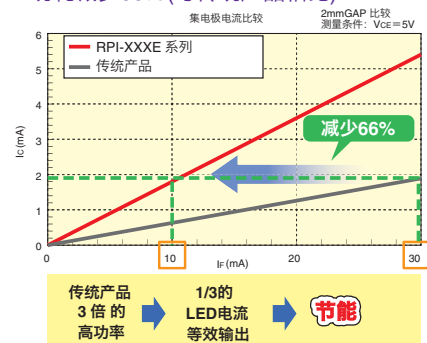
光斩波器 P.93

罗姆的光斩波器因其红外LED和受光元件是公司自产，并通过独创的封装技术将这些元件成对直接贴装，从而做到了更加小型化和节能。不仅小型，我们还在槽宽3~4mm型的中等槽宽产品中开发表面贴装型产品阵容，支持回流焊。

■ 表面贴装型光斩波器
RPI-0352E
RPI-0441E

RPI-0352E
3mm间距产品RPI-0441E
4mm间距产品

■ 功耗减少66%(与传统产品相比)



步进电机驱动器

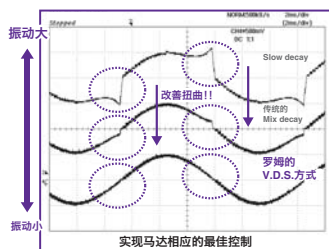
P.61 >



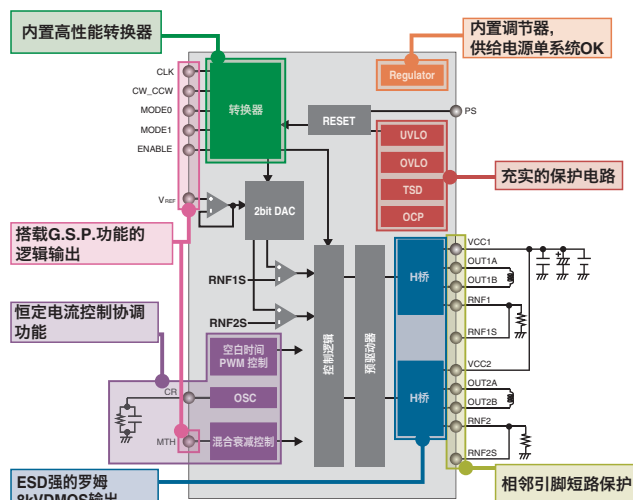
特性

- 无电荷泵可减少2个外接电容器
- Decay模式可协调电机输出波形
- 内置过电流保护功能等丰富的保护功能

■可变衰减设置(V.D.S.)



框图

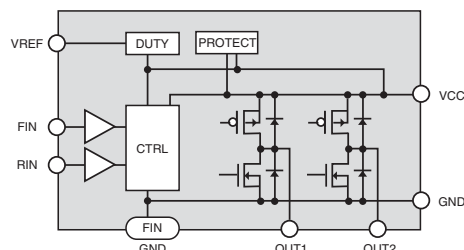


H桥电机驱动器

P.60 >



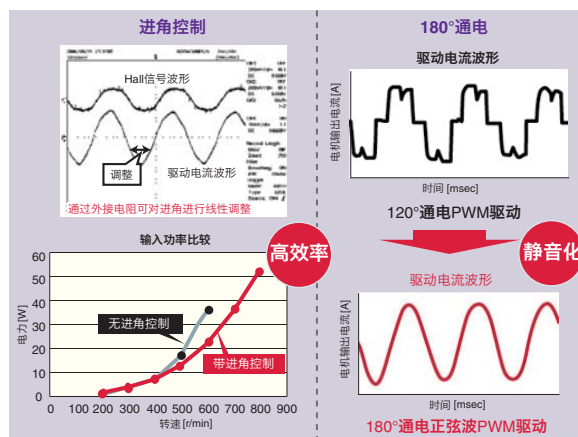
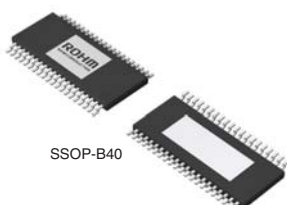
H桥输出中，虽然传统上是采用双极晶体管的达林顿连接，但通过使用DMOS实现了低导通电阻，让更高效率的驱动成为可能。输出段的损耗，发热得到控制，系统的热设计也变得简单。



三相无刷电机预驱动器

P.62 >

采用180°通电方式，与传统的120°通电方式相比实现了静音化。最适合静音化需求提高的三相电机控制。使用进角控制技术实现了高效率，因此还能为省电做出贡献。



风扇电机驱动器

P.62 >

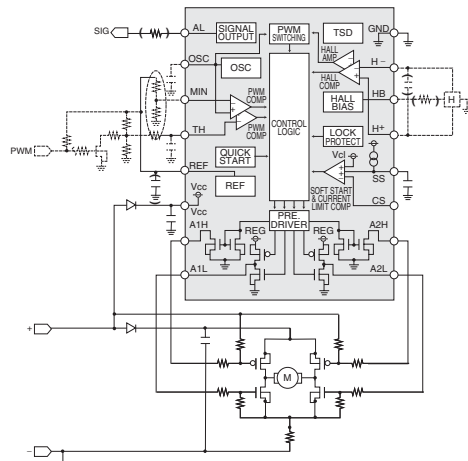
是控制由功率晶体管构成的电机驱动部位的预驱动器。支持通过外部PWM信号和DC电压的转速控制。

特性

- 支持外接功率晶体管的预驱动
- 支持通过DC/直接PWM 输入的速度控制
- PWM 软开关
- 软启动
- 快速启动
- 限流
- 加锁保护、自动恢复
- 锁定警报信号(AL)输出



框图



支持各种各样的LCD屏尺寸

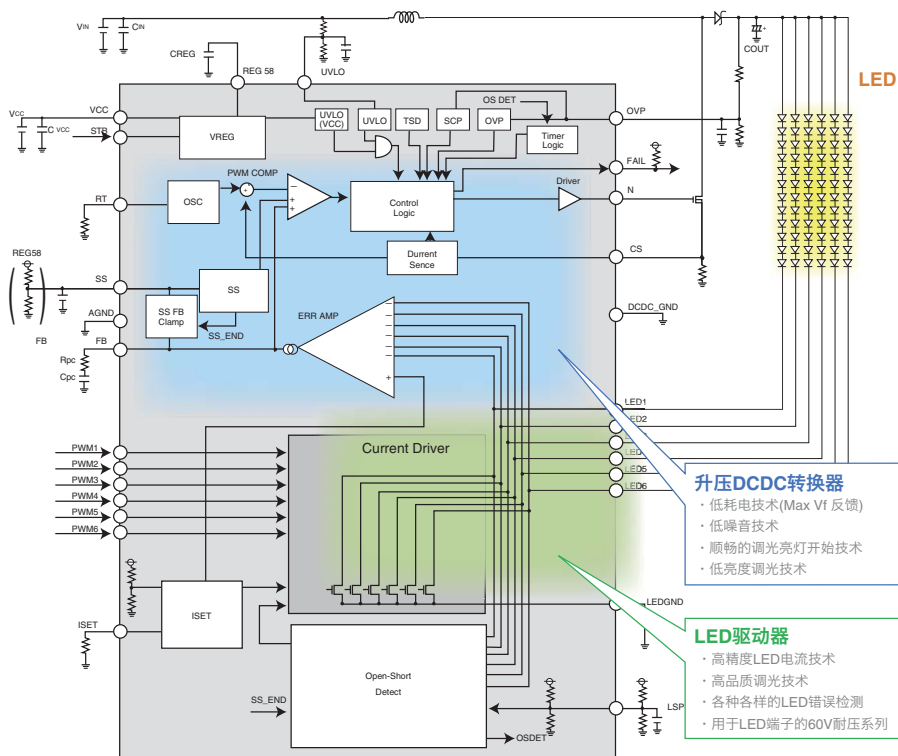
LED驱动器 P.62 >

罗姆拥有内置从1ch到8ch的恒定电流驱动器和DC/DC转换器的丰富产品阵容。调光功能和保护电路也很丰富。

Features

- 电流模式DC/DC控制器
 - 内置恒定电流驱动器
 - 可进行PWM/线性调光
 - 各种保护功能
- DC/DC : OCP/OVP/UVLO
LED : OPEN/SHORT

框图



丰富的产品阵容可支持各种各样的应用

热敏打印头 P.94 >

热敏打印头是指利用向陶瓷基板上所形成的发热电阻体通电而产生的焦耳热进行感热记录，或使热转印色带等热反应材料反应并进行记录的器件。罗姆通过发热体驱动用驱动器IC等半导体元件以及作为发热体的电阻元件等研究开发和生产体制的合理化，以行业顶级的薄膜、厚膜生产及半导体生产相关的综合技术为基础，能提供满足客户广大需求的产品。

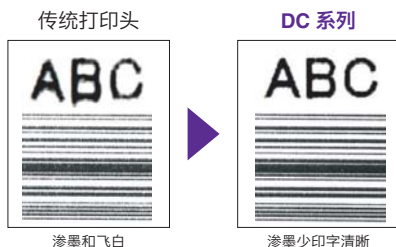
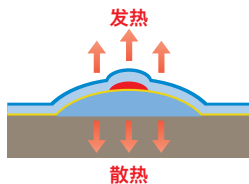
特性

■物流、食品条形码标签用 DC系列

通过在对对应大电流的TPH结构中采用支持高速打印的发热体结构和高耐久保护膜，确保了工业设备用途的高可靠性。



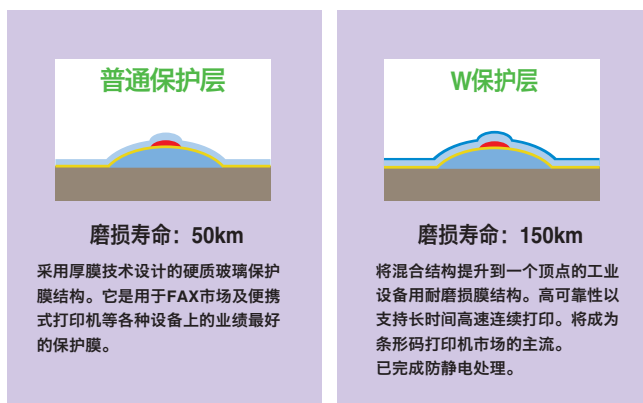
具备优秀的热应答性，能消除打印完毕后部分残留热量所带来的渗墨。随着接触性提高，热量损耗为零，可得到清晰的打印效果。(打印速度250mm/s)



■超高可靠性

通过采用W保护层，

- ① 与普通保护层产品(标准磨损寿命:50km)相比，实现了3倍以上的耐磨性(标准磨损寿命:150km)。
- ② 斩断高速打印时在记录媒介和热敏打印头间产生的静电。防止静电破坏的措施也很完善。
- ③ 采用的是支持大电流的构造，因此即便在连续打印或高打印率状态下也能确保高可靠性。





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串行EEPROM

通用EEPROM

I ² C BUS EEPROM (2-Wire) BR24Gxxxxx-3系列(SCL频率 = 400kHz)																		
Part No.	Package and suffix								Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	SCL Frequency (Hz)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	DIP-T8	SOP8	SOP-J8	SSOP-B8	TSSOP-B8	MSOP8	TSSOP-B8J	15200082030				Operating(mA)	Standby(μA)					
BR24G01	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	1K	128×8	1.6 to 5.5	2	2	5	400K	-40 to +85	10 ⁶	40
BR24G02	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	2K	256×8	1.6 to 5.5	2	2	5	400K			
BR24G04	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	4K	512×8	1.6 to 5.5	2	2	5	400K			
BR24G08	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	8K	1K×8	1.6 to 5.5	2	2	5	400K			
BR24G16	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	16K	2K×8	1.6 to 5.5	2	2	5	400K			
BR24G32	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	32K	4K×8	1.6 to 5.5	2	2	5	400K			
BR24G64	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	64K	8K×8	1.6 to 5.5	2	2	5	400K			
BR24G128	-3	F-3	FJ-3	FV-3	FVT-3	FVM-3	FVJ-3	NUX-3	128K	16K×8	1.6 to 5.5	2.5	2	5	400K			
BR24G256	-3	F-3	FJ-3	FV-3	FVT-3	—	—	—	256K	32K×8	1.6 to 5.5	2.5	2	5	400K			

I ² C BUS EEPROM (2-Wire) BR24Gxxxx-3A系列(SCL频率=1MHz)																		
BR24G01	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	1K	128×8	1.7 to 5.5	2	2	5	1M	-40 to +85	10 ⁶	40
BR24G02	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	2K	256×8	1.7 to 5.5	2	2	5	1M			
BR24G04	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	4K	512×8	1.7 to 5.5	2	2	5	1M			
BR24G08	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	8K	1K×8	1.7 to 5.5	2	2	5	1M			
BR24G16	-3A	F-3A	FJ-3A	—	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	16K	2K×8	1.7 to 5.5	2	2	5	1M			
BR24G32	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	32K	4K×8	1.7 to 5.5	2	2	5	1M			
BR24G64	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	64K	8K×8	1.7 to 5.5	2	2	5	1M			
BR24G128	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	FVM-3A	FVJ-3A	NUX-3A	128K	16K×8	1.7 to 5.5	2.5	2	5	1M			
BR24G256	-3A	F-3A	FJ-3A	FV-3A	FVT-3A	—	—	—	256K	32K×8	1.7 to 5.5	2.5	2	5	1M			
BR24G512	-3A	F-3A	FJ-3A	—	FVT-3A	—	—	—	512K	64K×8	1.7 to 5.5	4.5	3	5	1M			
BR24G1M	-3A	F-3A	FJ-3A	—	—	—	—	—	1M	128K×8	1.7 to 5.5	4.5	3	5	1M			

Microwire BUS EEPROM (3-Wire) BR93Gxxxxx-3/3A/3B系列																
Part No.	Package and suffix							Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	DIP-T8	SOP8	SOP-J8	SSOP-B8	TSSOP-B8	MSOP8	VSON008X2030				Operating(mA)	Standby(μA)				
BR93G46	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	—	1K	64×16 (128×8)	1.7 to 5.5	3	2	5	-40 to +85	10 ⁶	40
BR93G56	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	—	2K	128×16 (256×8)	1.7 to 5.5	3	2	5			
BR93G66	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	—	4K	256×16 (512×8)	1.7 to 5.5	3	2	5			
BR93G76	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	—	8K	512×16 (1K×8)	1.7 to 5.5	3	2	5			
BR93G86	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	—	16K	1K×16 (2K×8)	1.7 to 5.5	3	2	5			
BR93G96	-3 ^{*1} / -3A ^{*2} / -3B ^{*3}	F-3 ^{*1} / F-3A ^{*2} / F-3B ^{*3}	FJ-3 ^{*1} / FJ-3A ^{*2} / FJ-3B ^{*3}	FVT-3 ^{*1} / FVT-3A ^{*2} / FVT-3B ^{*3}	FVM-3 ^{*1} / FVM-3A ^{*2} / FVM-3B ^{*3}	NUX-3 ^{*1} / NUX-3A ^{*2} / NUX-3B ^{*3}	—	32K	2K×16 (4K×8)	1.7 to 5.5	3	2	5			

SPI BUS EEPROM BR25Lxxxxx-W系列															
Part No.	Package and suffix						Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	SOP8	SOP-J8	SSOP-B8	TSSOP-B8	MSOP8	TSSOP-B8J				Operating(mA)	Standby(μA)				
BR25L010	F-W	FJ-W	FV-W	FVT-W	FVM-W	FVJ-W	1K	128×8	1.8 to 5.5	3	2	5	-40 to +85	10 ⁶	40
BR25L020	F-W	FJ-W	FV-W	FVT-W	FVM-W	FVJ-W	2K	256×8	1.8 to 5.5	3	2	5			
BR25L040	F-W	FJ-W	FV-W	FVT-W	FVM-W	FVJ-W	4K	512×8	1.8 to 5.5	3	2	5			
BR25L080	F-W	FJ-W	FV-W	FVT-W	—	—	8K	1K×8	1.8 to 5.5	3	2	5			
BR25L160	F-W	FJ-W	FV-W	FVT-W	—	—	16K	2K×8	1.8 to 5.5	3	2	5			

SPI BUS EEPROM BR25Gxxxxx-3系列														
Part No.	Package and suffix					Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	SOP8	SOP-J8	TSSOP-B8	MSOP8	VSON008X2030				Operating(mA)	Standby(μA)				
BR25G320	F-3	FJ-3	FVT-3	FVM-3	NUX-3	32K	4K×8	1.6 to 5.5	8	2	5	-40 to +85	10 ⁶	100
BR25G640	F-3	FJ-3	FVT-3	FVM-3	NUX-3	64K	8K×8	1.6 to 5.5	8	2	5			
BR25G128	F-3	FJ-3	FVT-3	FVM-3	NUX-3	128K	16K×8	1.6 to 5.5	8	2	5			
BR25G256	F-3	FJ-3	FVT-3	—	—	256K	32K×8	1.6 to 5.5	8	2	5			
BR25G1M	F-3	FJ-3	—	—	—	1M	128K×8	1.8 to 5.5	4	1	5			

Microwire BUS EEPROM (3-Wire) BR93Gxxxx-3/3A/3B系列: *1 向ORG PIN输入后, 在硬件上可选择16bit或8bit的数据格式 *2 1PIN为CS PIN *3 3PIN为CS PIN

WL-CSP EEPROM																
Part No.	Package						Pull-up resistor	I/F	Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time(ms)	Operating temperature range(°C)	Data retention (years)
	Package Name	Size(mm)	Thickness (mm)Max.	Ball pitch (mm)	RESIN COATING	—						Operating (mA)	Standby (μA)			
BU9833GUL-W	VCSP50L1	x: 1.27 y: 1.50	0.55	0.5	○	—	—	I ² C	2K	256×8	1.7 to 5.5	2	2	5	-40 to +85	40
BU9847GUL-W	VCSP50L1	x: 1.95 y: 1.06	0.55	0.5	○	—	—	I ² C	4K	512×8	1.7 to 5.5	2	2	5	-40 to +85	40
BU9889GUL-W	VCSP50L2	x: 1.60 y: 1.00	0.55	0.5	○	—	—	I ² C	8K	1K×8	1.7 to 5.5	2	2	5	-40 to +85	40
BRCB008GWZ-3	UCSP30L1	x: 0.94 y: 0.94	0.33	0.4	—	—	—	I ² C	8K	1K×8	1.7 to 3.6	2	2	5	-40 to +85	40
BRCB016GWL-3	UCSP50L1	x: 1.10 y: 1.15	0.55	0.4	○	—	—	I ² C	16K	2K×8	1.7 to 3.6	2	2	5	-40 to +85	40
BRCD016GWZ-3	UCSP35L1	x: 1.30 y: 0.77	0.40	0.4	○	—	—	I ² C	16K	2K×8	1.7 to 3.6	2	2	5	-40 to +85	40
BRCA016GWZ-W	UCSP30L1	x: 1.30 y: 0.77	0.35	0.4	—	—	—	I ² C	16K	2K×8	1.7 to 3.6	2	2	5	-40 to +85	40

通用EEPROM

WL-CSP EEPROM

BRCB032GWZ-3	UCSP30L1	x: 1.45 y: 0.77	0.33	0.4	—	—	I ² C	32K	4K × 8	1.7 to 5.5	2	2	5	-40 to +85	40
BRCG064GWZ-3	UCSP35L1	x: 1.50 y: 1.00	0.36	0.4	○	—	I ² C	64K	8K × 8	1.6 to 5.5	2	2	5	-40 to +85	40
New BRCH064GWZ-3	UCSP35L1A	x: 1.50 y: 1.00	0.33	0.4	○	—	I ² C	64K	8K × 8	1.6 to 5.5	2	2	5	-40 to +85	40
BRCB064GWZ-3	UCSP30L1	x: 1.50 y: 1.00	0.35	0.4	—	WP	I ² C	64K	8K × 8	1.6 to 5.5	3.9	2	5	-40 to +85	40
BRCE064GWZ-3	UCSP25L1	x: 1.50 y: 1.00	0.30	0.4	—	—	I ² C	64K	8K × 8	1.6 to 5.5	2	2	5	-40 to +85	40
BU9897GUL-W	VCSP50L2	x: 2.44 y: 1.99	0.55	0.5	○	—	I ² C	128K	16K × 8	1.7 to 5.5	2.5	2	5	-40 to +85	40
BU9832GUL-W	VCSP50L2	x: 2.09 y: 1.85	0.55	0.5	○	—	SPI	8K	1K × 8	1.8 to 5.5	3	2	5	-40 to +85	40
BU9829GUL-W	VCSP50L1	x: 1.74 y: 1.65	0.55	0.5	○	—	SPI	16K	2K × 8	1.6 to 3.6	2	1	5	-30 to +85	10
BR25S128GUZ-W	VCSP35L2	x: 2.00 y: 2.63	0.40	0.5	○	—	SPI	128K	16K × 8	1.7 to 5.5	2 [※]	2	5	-40 to +85	40
BU9891GUL-W	VCSP50L1	x: 1.60 y: 1.00	0.55	0.5	○	—	MW	4K	256 × 16	1.7 to 5.5	3	2	5	-40 to +85	40

Plug & Play用EEPROM 用于存储器模块

Part No.	Package and suffix		Bit format (word×bit)	Supply voltage range(V)	Clock frequency (kHz)	Write cycle time(ms)	Endurance (times)	Data retention (years)	Write Protect
	TSSOP-B8	VSON008X2030							
BR34L02	FVT-W	—	256 × 8	1.7 to 5.5	100 ^{※1} /400 ^{※2}	5	10 ⁶	40	Onetime ROM write protect
BR34E02	FVT-3	NUX-3	256 × 8	1.7 to 5.5	400	5	10 ⁶	40	Settable write protect Onetime ROM write protect

Plug & Play用EEPROM 用于显示器

Part No.	Package and suffix							Function Descriptions	Bit format (word×bit)	Supply voltage (V)	Clock frequency (MHz)	Write cycle time (ms)
	SOP8	SOP-J8	SSOP-B8	SOP14	SSOP-B14	SSOP-B16	VSON008X2030					
BR24C21	F	FJ	FV	—	—	—	—	Supports DDC1 TM / DDC2 TM for displays	128 × 8	2.5 to 5.5	100/400	10
BU9882	—	—	—	F-W	FV-W	—	—	Dual-port type compatible with DDC2 TM for displays	128 × 8 × 2ch	2.5 to 5.5	100/400	10
BU9883	—	—	—	—	—	FV-W	—	2kbit × 3ch EEPROM for HDMI ports	256 × 8 × 3ch	3.0 to 5.5	400	5
BU99022	—	—	—	—	—	—	NUX-3	2Kbit × 2ch type	256 × 8 × 2ch	1.7 to 5.5	400	5

WL-CSP EEPROM: ※: V_{CC}=2.5V

Plug & Play用EEPROM 用于存储器模块: ※1: V_{CC}=1.7 to 5.5V ※2: V_{CC}=2.5 to 5.5V

车载用EEPROM

105°C工作 I²C BUS EEPROM (2-Wire) BR24Axxxxx-WM系列

Part No.	Package and suffix			Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	SOP8	SOP-J8	MSOP8				Operating(mA)	Standby(μA)				
BR24A01A	F-WM	FJ-WM	—	1K	128 × 8	2.5 to 5.5	2	2	5	-40 to +105	10 ⁶	40
BR24A02	F-WM	FJ-WM	FVM-WM	2K	256 × 8	2.5 to 5.5	2	2	5			
BR24A04	F-WM	FJ-WM	—	4K	512 × 8	2.5 to 5.5	2	2	5			
BR24A08	F-WM	FJ-WM	—	8K	1K × 8	2.5 to 5.5	2	2	5			
BR24A16	F-WM	FJ-WM	—	16K	2K × 8	2.5 to 5.5	2	2	5			
BR24A32	F-WM	—	—	32K	4K × 8	2.5 to 5.5	3	2	5			
BR24A64	F-WM	—	—	64K	8K × 8	2.5 to 5.5	3	2	5			

125°C工作 Microwire BUS EEPROM (3-Wire) BR93Hxxxxx-2C系列

Part No.	Package and suffix				Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	SOP8	SOP-J8	TSSOP-B8	MSOP8				Operating(mA)	Standby(μA)				
BR93H46	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	1K	64 × 16	2.5 to 5.5	3	10	4	-40 to +125	10 ⁶	100
BR93H56	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	2K	128 × 16	2.5 to 5.5	3	10	4			
BR93H66	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	4K	256 × 16	2.5 to 5.5	3	10	4			
BR93H76	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	8K	512 × 16	2.5 to 5.5	3	10	4			
BR93H86	RF-2C	RFJ-2C	RFVT-2C	RFVM-2C	16K	1K × 16	2.5 to 5.5	3	10	4			

105°C工作 Microwire BUS EEPROM (3-Wire) BR93Axxxxx-WM系列

BR93A46	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	1K	64 × 16	2.5 to 5.5	3	2	5	-40 to +105	10 ⁶	40
BR93A56	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	2K	128 × 16	2.5 to 5.5	3	2	5			
BR93A66	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	4K	256 × 16	2.5 to 5.5	3	2	5			
BR93A76	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	8K	512 × 16	2.5 to 5.5	3	2	5			
BR93A86	RF-WM	RFJ-WM	RFVT-WM	RFVM-WM	16K	1K × 16	2.5 to 5.5	3	2	5			

125°C工作 SPI BUS EEPROM BR25Hxxxxx-2C系列

Part No.	Package and suffix				Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	SOP8	SOP-J8	TSSOP-B8	MSOP8				Operating(mA)	Standby(μA)				
BR25H010	F-2C	FJ-2C	FVT-2C	FVM-2C	1K	128 × 8	2.5 to 5.5	4	10	4	-40 to +125	10 ⁶	100
BR25H020	F-2C	FJ-2C	FVT-2C	FVM-2C	2K	256 × 8	2.5 to 5.5	4	10	4			
BR25H040	F-2C	FJ-2C	FVT-2C	FVM-2C	4K	512 × 8	2.5 to 5.5	4	10	4			
BR25H080	F-2C	FJ-2C	FVT-2C	FVM-2C	8K	1K × 8	2.5 to 5.5	4	10	4			
BR25H160	F-2C	FJ-2C	FVT-2C	FVM-2C	16K	2K × 8	2.5 to 5.5	4	10	4			
BR25H320	F-2C	FJ-2C	FVT-2C	FVM-2C	32K	4K × 8	2.5 to 5.5	4	10	4			
BR25H640	F-2C	FJ-2C	FVT-2C	—	64K	8K × 8	2.5 to 5.5	5.5	10	4			
BR25H128	F-2C	FJ-2C	—	—	128K	16K × 8	2.5 to 5.5	5.5	10	4			

串行EEPROM

车载用EEPROM

125°C工作 SPI BUS EEPROM BR35Hxxxxx-WC系列													
Part No.	Package and suffix				Density (bit)	Bit format (word×bit)	Supply voltage range(V)	Current consumption(Max.)		Write cycle time (Max.)(ms)	Operating temperature range(°C)	Endurance (times)	Data retention (years)
	SOP8	SOP-J8	TSSOP-B8	MSOP8				Operating(mA)	Standby(μA)				
BR35H160	F-WC	FJ-WC	FVT-WC	FVM-WC	16K	2K×8	2.5 to 5.5	3	10	5	-40 to +125	10 ⁶	40
BR35H320	F-WC	FJ-WC	FVT-WC	FVM-WC	32K	4K×8	2.5 to 5.5	3	10	5			
BR35H640	F-WC	FJ-WC	FVT-WC	—	64K	8K×8	2.5 to 5.5	5.5	10	5			
BR35H128	F-WC	FJ-WC	—	—	128K	16K×8	2.5 to 5.5	5.5	10	5			
105°C工作 SPI BUS EEPROM BR25Axxxxxx-3M系列													
BR25A256	F-3M	FJ-3M	FVT-3M	—	256K	32K×8	2.5 to 5.5	4	10	5	-40 to +105	10 ⁶	100
BR25A1M	F-3M	FJ-3M	—	—	1M	128K×8	2.5 to 5.5	4	10	5			

FeRAM

铁电存储器

(LAPIS Semiconductor 产品)

Parallel BUS FeRAM MR48Vxxx系列								
Part No.	Memory Density (bit)	Configuration (word × bit)	Supply Voltage (V)	Operating speed	Read/Write Endurance	Data Retention	Operating Temperature Ta (°C)	Package
MR48V256C	256K	32K × 8	2.7 to 3.6	t _{RC} = 150ns	10 ¹² Times	10 years	−40 to +85	TSOP(1)28
I ² C BUS FeRAM MR44Vxxx系列								
MR44V064A	64K	8K × 8	2.5 to 3.6	f _{clk} = 3.4MHz	10 ¹² Times	10 years	−40 to +85	SOP8
MR44V064B	64K	8K × 8	2.0 to 3.6	f _{clk} = 3.4MHz				
☆MR44V100A	1M	128K × 8	2.0 to 3.6	f _{clk} = 3.4MHz				
SPI BUS FeRAM MR45Vxxx系列								
MR45V032A	32K	4K × 8	2.7 to 3.6	f _{clk} = 15MHz	10 ¹² Times	10 years	−40 to +85	SOP8
MR45V064B	64K	8K × 8	2.0 to 3.6	f _{clk} = 40MHz				
MR45V256A	256K	32K × 8	3.0 to 3.6	f _{clk} = 15MHz				
☆MR45V100A	1M	128K × 8	2.0 to 3.6	f _{clk} = 34MHz				
MR45V200A	2M	256K × 8	2.7 to 3.6	f _{clk} = 34MHz				DIP8

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NOR Flash

(LAPIS Semiconductor 产品)

Parallel NOR Flash MR39Vxxxxx/MR29Vxxxxx系列											
Part No.	Supply Voltage (V)	Memory Density (bit)	Configuration (word×bit/byte×bit)	Mode	Page size (word×bit/byte×bit)	Access Time (Address/Page) (ns)	Current Consumption (Max.)		Operating temperature Ta (°C)	Package	Features
							Operating	Standby			
☆MR39V01G52B	2.7 to 3.6	1G	64M×16/128M×8	NOR PAGE	16-word×16/32-byte×8	110/25	TBD	TBD	-40 to +85	TSOP(I)56	Output Driver Strength control, Cu-L/F
☆MR39V51252B		512M	32M×16/64M×8			110/25	TBD	TBD	-40 to +85		
☆MR39V25652B		256M	16M×16/32M×8			110/25	TBD	TBD	-40 to +85		
☆MR29V12852B		128M	8M×16/16M×8		8-word×16/16-byte×8	70/25	30mA	100uA	-40 to +85		
☆MR29V06452B		64M	4M×16/8M×8			70/25	30mA	100uA	-40 to +85	TSOP(I)48	

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P2ROM™

(LAPIS Semiconductor 产品)

Parallel BUS 标准P2ROM™										
Part No.	Density (bit)	Configuration (bank×word×bit)	Supply Voltage (V)	Access Time (ns)	Current Consumption (Max.)		Operating temperature (°C)	Package	Package Frame	
					Operating	Standby				
MR26T51203L	512M	32M×16/64M×8	3.0 to 3.6	100	35mA	10μA	0 to +70	TSOP(II)50	—	—
MR27T25603L	256M	16M×16/32M×8	3.0 to 3.6	100	35mA	10μA		TSOP(II)50		
MR27T12800L	128M	8M×16/16M×8	2.7 to 3.6	90	25mA	10μA		TSOP(I)48		
MR27T12802L			3.0 to 3.6	80	25mA	10μA		TSOP(I)56		
MR27V12800L			2.7 to 3.6	90	25mA	10μA		Chip		
MR27T6402L	64M	4M×16/8M×8	3.0 to 3.6	85	25mA	10μA	-40 to +85	SOP44/TSOP(I)48/TFBGA48	Cu/TSOP(I)48	—
MR27V6402L			2.7 to 3.6	90	20mA	10μA		TSOP(I)48		
MR27V6402L			3.0 to 3.6	70	20mA	10μA		Chip		
MR27T3202L	32M	2M×16/4M×8	3.0 to 3.6	70	20mA	10μA	0 to +70	SOP44/TSOP(I)48/TFBGA48	—	—
MR27V3202L			2.7 to 3.6	90	20mA	10μA		TSOP(I)48		
MR27V3202L			3.0 to 3.6	80	20mA	10μA		Chip		
MR27T1602L	16M	1M×16/2M×8	2.7 to 3.6	70	16mA	10μA	-40 to +85	SOP44/TSOP(I)48/TFBGA48	Cu/TSOP(I)48	—
MR27V1602L			3.0 to 3.6	70	16mA	10μA		TSOP(I)48		
MR27V1602L			2.7 to 3.6	80	18mA	5μA		Chip		
MR27T802F	8M	512K×16/1M×8	3.0 to 3.6	70	18mA	5μA	0 to +70	SOP44/TSOP(I)48	—	—
MR27V802F			2.7 to 3.6	70	18mA	5μA		Chip		
MR27V802F			3.0 to 3.6	90	18mA	5μA		Chip		

(LAPIS Semiconductor 产品)

Parallel BUS 页模式P2ROM™												
Part No.	Supply Voltage (V)	Density (bit)	Configuration (word×bit)	Mode	Page Size	Access Time (Address/Page) (ns)	Current Consumption (Max.)		Operating Temperature Ta (°C)	Package		
							Operating	Standby				
MR36V01G52B	3.0 to 3.6	1G	64M×16/128M×8	NOR	8-word×16	105/25	100mA	25mA	0 to +70	TSOP(Ⅰ)56		
MR26V51252R		512M	32M×16/64M×8			105/25	50mA	4mA				
MR37V25652T		256M	16M×16/32M×8			100/25	35mA	20μA				
MR27V25653L						100/35	60mA	5mA				
MR37V12852B		128M	8M×16/16M×8			90/30	50mA	10μA				
MR27V12852L						85/30	50mA	10μA				
MR27V12850L						85/30	50mA	10μA				
MR37V6452B		64M	4M×16/8M×8			90/30	50mA	10μA	-40 to +85	TSOP(Ⅰ)48/Chip TSOP(Ⅰ)48/TSOP(Ⅰ)56		
MR27V6452L						90/30	50mA	10μA				
MR27V6452R						80/25	40mA	10μA				
MR26V6455J						100/30	100mA	20μA				
MR27V3252J						32M	2M×16/4M×8	70/25	50mA	10μA	0 to +70	SOP44/TSOP(Ⅰ)48
MR27V1652L						16M	1M×16/2M×8	80/25	60mA	10μA		SOP44/TSOP(Ⅰ)48/Chip

SPI BUS P2ROM™									
Part No.	Supply Voltage (V)	Density (bit)	Configuration (word×bit)	Operating Frequency (MHz)		Current Consumption (Max.)		Operating Temperature Tj (°C)	Package
				FAST-READ	READ	Operating*	Standby		
MR37V12841A	3.0 to 3.6	128M	128M×1	33	20	30mA/20mA*	50μA	0 to +70	SOP16
MR27V6441L		64M	64M×1	33	20	30mA/20mA*	50μA		SOP16/Chip
MR27V3241L		32M	32M×1	33	20	40mA/20mA*	50μA		
MR27V1641L		16M	16M×1	30	20	25mA/20mA*	50μA		

SPI BUS P2ROM™ : * : FAST-READ/READ

DRAM

传统的DRAM FP/EDO

(LAPIS Semiconductor 产品)

标准													
Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (word×bit)	Circuit function	Access Time (ns)	Refresh cycle (cycles/ms)	Operating Temperature Ta (°C)	Package				
MSM514400E	5.0±0.5	4M	×4	1M×4	Fast Page Mode	60/70	1024/16	0 to +70	TSOP(Ⅱ)26/20Cu				
MSM514800E			×8	512K×8		60/70	1024/16		TSOP(Ⅱ)28				
MSM514800ESL							1024/128						
MSM514260E			×16	256K×16	EDO	60/70	512/8		TSOP(Ⅱ)44/40				
MSM514265E					High Speed EDO					28/30/35			
MSM5416258B		16M	×4	4M×4	Fast Page Mode	60	4096/64		TSOP(Ⅱ)26/24Cu				
MSM5117400F					EDO	50/60	2048/32						
MSM5117405F					Fast Page Mode	60				TSOP(Ⅱ)28			
MSM5117800F					EDO	60	4096/64						
MSM5116160F			×16	1 M×16	Fast Page Mode	60	4096/64		TSOP(Ⅱ)50/44				
MSM5118160F					EDO	50/60	1024/16						
MSM5118165F					3.3±0.3	4M	×4	1 M×4		Fast Page Mode	70/100	1024/16	TSOP(Ⅱ)26/20Cu
MSM51V4400E							×8	512K×8			70		TSOP(Ⅱ)28
MSM54V16258B	×16	256K×16	EDO	40/45/50			512/64	TSOP(Ⅱ)44/40					
MD54V16258BSL				60/70			512/8						
MSM51V4265E	16M	×4	4M×4	Fast Page Mode			60	4096/64	TSOP(Ⅱ)26/24Cu				
MSM51V16400F				EDO	50/60								
MSM51V16405F				Fast Page Mode	50/60	2048/32							
MSM51V17400F				EDO	50/60								
MSM51V17405F		×8	2M×8	Fast Page Mode	60	4096/64	TSOP(Ⅱ)28						
MSM51V17800F				EDO	50/60								
MSM51V17805F		×16	1M×16	Fast Page Mode	50/60	4096/64	TSOP(Ⅱ)50/44						
MSM51V16160F				EDO	60								
MSM51V16165F				Fast Page Mode	50/60	1024/16							
MSM51V18160F				64M	4M×16	EDO		50/60	4096/54	TSOP(Ⅱ)50			
MSM51V18165F	50/60												
MD51V65165E	50/60												

DRAM

传统的DRAM FP/EDO

(LAPIS Semiconductor 产品)

车载									
Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (word × bit)	Circuit function	Access Time (ns)	Refresh cycle (cycles/ms)	Operating Temperature Ta (°C)	Package
MSM514400DP	5.0±0.5	4M	× 4	1M × 4	Fast Page Mode	60/70	1024/16	-40 to +85	TSOP(II)26/24Cu
MSM514400EP				256K × 16		60/70	512/8		TSOP(II)44/40
MSM514260EP		16M	× 16	1M × 16	EDO	60	1024/16		TSOP(II)50/44
MSM5118160FP				1M × 16		60	1024/16		TSOP(II)26/24Cu
MSM5118165FP	3.3±0.3	4M	× 4	1M × 4	Fast Page Mode	70/100	1024/16		TSOP(II)44/40
MSM51V4400EP				256K × 16	EDO	40/45/50	512/64		TSOP(II)26/24Cu
MSM54V16258BP		16M	× 4	4M × 4	Fast Page Mode	60	2048/32		TSOP(II)44/40
MSM51V4265EP				1M × 16		60	1024/16		TSOP(II)26/24Cu
MSM51V17400FP			× 16	1M × 16	EDO	60	1024/16		TSOP(II)26/24Cu
MSM51V18165FP				1M × 16		60	1024/16		TSOP(II)26/24Cu

传统的DRAM SDRAM

(LAPIS Semiconductor 产品)

标准													
Part No.	Data Rate Type	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank × word × bit)	Max.Operating Frequency (MHz)	Refresh Cycle (cycles/rns)	Cycle Time (ns)	Features	Operating Temperature Ta (°C)	Package		
MSM56V16800F	SDR	3.3±0.3	16M	× 8	2 × 1M × 8	125	4096/64	8/10	—	0 to +70	TSOP(II)44		
MSM56V16160F						125		8/10			TSOP(II)50		
MSM56V16160K						143		7/7.5/8/10	Drivability control		TSOP(II)50Cu		
MSM56V16161K						143		7/7.5/8/10			TSOP(II)50Cu		
New MSM56V16161N						166		6/7/7.5/10					
MD56V62160E			64M	× 16	4 × 1M × 16	100		10	—		TSOP(II)54		
MD56V62160M								143	7/7.5/10		Drivability control	TSOP(II)54Cu	
MD56V62161M								143	7/7.5/10				
MD56V72160C			128M		4 × 2M × 16	166		6/7/7.5/10					
MD56V72161C						166		6/7/7.5/10					
MD56V82160A						166		6/7/7.5/10					
New MD58W82160A			DDR	2.5±0.2	256M	4 × 4M × 16		200	8192/64		5	—	
工业													
MSM56V16160KP	SDR	3.3±0.3	16M	× 16	2 × 512K × 16	143	4096/64	7/7.5/8/10	Drivability control	−40 to +85	TSOP(II)50Cu		
MSM56V16161KP								143				7/7.5/8/10	
New MSM56V16161NP								166				6/7/7.5/10	
MD56V62160M-xxTAP			64M		4 × 1M × 16	143		7/7.5/10			Drivability control	TSOP(II)54Cu	
MD56V62161M-xxTAP								143					7/7.5/10
MD56V72160C-xxTAP						128M		4 × 2M × 16					166
New MD56V72161C-xxTAP					166						6/7/7.5/10		
MD56V82160A-xxTAP			256M		4 × 4M × 16						166	8192/64	6/7/7.5/10
车载													
MSM56V16160FP	SDR	3.3±0.3	16M	× 16	2 × 512K × 16	100	4096/64	10	—	−40 to +85	TSOP(II)50		
MSM56V16160KP								125			8/10	Drivability control	TSOP(II)50Cu
New MSM56V16161NP								166			6/7/7.5/10		TSOP(II)50Cu
MD56V62160E-10TAP			64M		4 × 1M × 16	100		10	—		TSOP(II)54		
MD56V62160M-xxTAP								143	7/7.5/10			Drivability control	TSOP(II)54Cu
New MD56V62161M-xxTALQ1L								143	7/7.5/10				
MD56V72160C-xxTAP			128M		4 × 2M × 16	166		4096/64	6/7/7.5/10		−40 to +105		
New MD56V72161C-xxTALQ1L								166	4096/64		6/7/7.5/10	−40 to +85	
MD56V82160A-xxTAP								166	4096/64		6/7/7.5/10	−40 to +105	
New MD56V82160A-xxTALQ3L			256M		4 × 4M × 16	166	8192/16	6/7/7.5/10	−40 to +85				
										−40 to +105			

DDR : Double Data Rate Synchronous DRAM SDR : Single Data Rate Synchronous DRAM

SiP用 SDRAM

(LAPIS Semiconductor 产品)

标准										
	Part No.	Supply Voltage (V)	Density (bit)	Number of Data bits	Configuration (bank×word×bit)	Max.Operating Frequency (MHz)	Refresh Cycle (cycles/ms)	Cycle Time (ns)	Operating Temperature Tj (°C)	Features
	MSM56V16160K	3.3±0.3	16M	× 16	2×512K×16	143	4096/32	7/7.5/8/10	-40 to +125	KGD
New	MSM56V16160N				166	6/7/7.5/8/10		KGD		
	MD56V62160M		64M		4×1M×16	143		7/7.5/8/10		KGD
	MD56V72160C		128M		4×2M×16	166		6/7/7.5/10		KGD
车载										
	MSM56V16160K	3.3±0.3	16M	× 16	2×512K×16	143	4096/32	7/7.5/8/10	-40 to +125	KGD
New	MSM56V16160N				166	6/7/7.5/8/10		KGD		
	MD56V62160M		64M		4×1M×16	143		7/7.5/8/10		KGD
	MD56V72160C		128M		4×2M×16	166		6/7/7.5/10		KGD

图像用存储器

(LAPIS Semiconductor 产品)

标准													
Part No.	Supply Voltage (V)	Density (bit)	Configuration (word × bit) × port	Number of Data bits	Max.Operating Frequency (MHz)	Access Time (ns)	Cycle Time (ns)	Power Consumption (mW)		Operating Temperature Ta (°C)	Package	Notes	
								Operating	Standby				
MSM5412222B	5.0±0.5	3M	262,214 × 12	× 12	40	23/25	25/30	330	27.5	0 to + 70	TSOP(II)44	Asynchronous serial read/write, Write mask function, Output data control, Cascade	
MS8104160A		4M	(262,214 × 8) × 2	× 16	50	18/23	20/25	935	27.5		QFP100	Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two – port, 2 common WCLK ports	
MSM54V12222B	3.3±0.3	3M	262,214 × 12	× 12	50	18/23	20/25	216	10.8		TSOP(II)44	Asynchronous serial read/write, Write mask function, Output data control, Cascade	
MS81V03120					100	7.5/8	10/12	360	14.4		TSOP(II)70	Asynchronous serial read/write, Write mask function, Output data control, Cascade	
MS81V04160A		4M	(262,214 × 8) × 2	× 16	50	18/23	20/25	288	10.8		QFP100	Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two – port, 2 common WCLK ports	
MS81V04166A												Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two – port, 2 separate WCLK ports	
MS81V05200		5M	583,680 × 10	× 10	77	8	13	780	21.6		TSOP(II)70	Asynchronous serial read/write, Write mask function, Output data control, Cascade	
MS81V06160												6M	401,408 × 16
MS81V10160		10M	664,320 × 16	83	9/12	12/15	756/612	21.6	TQFP100		Asynchronous serial read/write, Write mask function, Output data control, Cascade		
MS81V26000		26M	1,114,112 × 24	× 24	100	8/9	10/12	648/576			18	Asynchronous serial read/write, Write mask function, Output data control, Cascade, The top address can be specified	
车载													
MS81V04160AP	3.3±0.3	4M	(262,214 × 8) × 2	× 16	50	18/23	20/25	288	10.8	– 40 to + 85	QFP100	Asynchronous serial read/write, Write mask function, Output data control, Cascade, Two – port, 2 common WCLK ports.	
MS81V26000-25TPZP3		26M	1,114,112 × 24	× 24	40	12	25	576	18		TQFP100Cu	Asynchronous serial read/write, Write mask function, Output data control, Cascade, The top address can be specified	

运算放大器

通用

接地检测运算放大器													
Part No.	CH	Supply Voltage (V)	Circuit current (mA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package
BA2904F/FV/FVM	2	3 to 36	0.5	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP8/SSOP-B8/MSOP8
New BA2904YF-LB	2	3 to 36	0.5	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP8
BA2904SF/SFV/SFVM	2	3 to 36	0.5	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 105	SOP8/SSOP-B8/MSOP8
BA2902F/FV	4	3 to 36	0.7	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP14/SSOP-B14
New BA2902YF-LB	4	3 to 36	0.7	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP14
BA2902SF/SFV	4	3 to 36	0.7	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 105	SOP14/SSOP-B14
BA3404F/FJ/FVM	2	4 to 36	2.0	2.0	70	30	VEE to VCC – 2.0	VEE to VCC – 2.0	100	1.2	1.2	– 40 to + 85	SOP8/SOP-J8/MSOP8
BA10358F/FV/FJ	2	3 to 32	0.5	2.0	45	20	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 85	SOP8/SSOP-B8/SOP-J8
BA10324AF/AFV/AFJ	4	3 to 32	0.6	2.0	20	35	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 85	SOP14/SSOP-B14/SOP-J14
车载用接地检测运算放大器													
Part No.	CH	Supply Voltage (V)	Circuit current (mA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package
BA2904YF-C/YFV-C/YFVM-C	2	3 to 36	0.5	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP8/SSOP-B8/MSOP8
BA2902YF-C/YFV-C	4	3 to 36	0.7	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP14/SSOP-B14
BA2904YF-M/YFV-M/YFVM-M	2	3 to 36	0.5	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP8/SSOP-B8/MSOP8
BA2902YF-M/YFV-M	4	3 to 36	0.7	2.0	20	30	VEE to VCC – 1.5	VEE to VCC – 1.5	100	0.2	0.5	– 40 to + 125	SOP14/SSOP-B14

高速

输入输出全振幅运算放大器													
Part No.	CH	Supply Voltage (V)	Circuit current (μA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package
BU7261G	1	1.8 to 5.5	250	1.0	0.001	10	Vss to VDD	Vss+0.1 to VDD–0.1	95	1.1	2.0	– 40 to + 85	SSOP5
BU7261SG												– 40 to + 105	SSOP5
BU7262F/FVM/NUX	2	1.8 to 5.5	550	1.0	0.001	10	Vss to VDD	Vss+0.1 to VDD–0.1	95	1.1	2.0	– 40 to + 85	SOP8/MSOP8/VSON008X2030
BU7262SF/SFVM/SNUX	2	1.8 to 5.5	550	1.0	0.001	10	Vss to VDD	Vss+0.1 to VDD–0.1	95	1.1	2.0	– 40 to + 105	SOP8/MSOP8/VSON008X2030
BU7264F/FV	4	1.8 to 5.5	1100	1.0	0.001	10	Vss to VDD	Vss+0.1 to VDD–0.1	95	1.1	2.0	– 40 to + 85	SOP14/SSOP-B14
BU7264SF/SFV												– 40 to + 105	SOP14/SSOP-B14
BU7291G	1	2.4 to 5.5	470	1.0	0.001	8	Vss to VDD	Vss+0.1 to VDD–0.1	105	3.0	2.8	– 40 to + 85	SSOP5
BU7291SG												– 40 to + 105	SSOP5
BU7294F/FV	4	2.4 to 5.5	2000	1.0	0.001	8	Vss to VDD	Vss+0.1 to VDD–0.1	105	3.0	2.8	– 40 to + 85	SOP14/SSOP-B14
BU7294SF/SFV												– 40 to + 105	SOP14/SSOP-B14
BU7295HFV	1	1.8 to 5.5	150	1.0	0.001	8	Vss to VDD	Vss+0.1 to VDD–0.1	95	1.0	1.0	– 40 to + 85	HVSOF5
BU7295SHFV												– 40 to + 105	HVSOF5
BU7255HFV	1	2.4 to 5.5	540	1.0	0.001	4	Vss to VDD	Vss+0.1 to VDD–0.1	105	3.4	4.0	– 40 to + 85	HVSOF5
BU7255SHFV												– 40 to + 105	HVSOF5
BD7561G	1	5 to 14.5	440	1.0	0.001	8	Vss to VDD	Vss+0.1 to VDD–0.1	95	0.9	1.0	– 40 to + 85	SSOP5
BD7561SG												– 40 to + 105	SSOP5
BD7562F/FVM	2	5 to 14.5	900	1.0	0.001	8	Vss to VDD	Vss+0.1 to VDD–0.1	95	0.9	1.0	– 40 to + 85	SOP8/MSOP8
BD7562SF/SFVM	2	5 to 14.5	900	1.0	0.001	8	Vss to VDD	Vss+0.1 to VDD–0.1	95	0.9	1.0	– 40 to + 105	SOP8/MSOP8

运算放大器

高速

接地检测运算放大器

Part No.	CH	Supply Voltage (V)	Circuit current (μA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package
BA3472F/FV/FJ/FVM/FVT	2	3 to 36	4.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +85	SOP8/SSOP-B8/SOP-J8/MSOP8/TSSOP-B8
BA3472RFVFM												-40 to +105	MSOP8
New BA3472YF-LB	2	3 to 36	4.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +105	SOP8
BA3474F/FV/FVJ	4	3 to 36	8.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +75	SOP14/SSOP-B14/TSSOP-B14J
BA3474RFV												-40 to +85	SSOP-B14
BU7461G	1	1.7 to 5.5	0.15	1.0	0.001	8	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	95	1.0	1.0	-40 to +85	SSOP5
BU7461SG												-40 to +105	SSOP5
BU7462F/FVM/NUX	2	1.7 to 5.5	0.3	1.0	0.001	8	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	95	1.0	1.0	-40 to +85	SOP8/MSOP8/VSON008X2030
BU7462SF/SFVM/SNUX	2	1.7 to 5.5	0.3	1.0	0.001	8	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	95	1.0	1.0	-40 to +105	SOP8/MSOP8/VSON008X2030
BU7464F	4	1.7 to 5.5	0.6	1.0	0.001	8	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	95	1.0	1.0	-40 to +85	SOP14
BU7464SF												-40 to +105	SOP14
BU7481G	1	1.8 to 5.5	0.42	1.0	0.001	8	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	105	3.2	2.8	-40 to +85	SSOP5
BU7481SG												-40 to +105	SSOP5
BU7485G	1	3.0 to 5.5	1.5	1.0	0.001	8	V _{SS} to V _{DD} -1.4	V _{SS} +0.1 to V _{DD} -0.1	105	10	10.0	-40 to +85	SSOP5
BU7485SG												-40 to +105	SSOP5
BU7486F/FV/FVM	2	3.0 to 5.5	3.0	1.0	0.001	8	V _{SS} to V _{DD} -1.4	V _{SS} +0.1 to V _{DD} -0.1	105	10	10.0	-40 to +85	SOP8/SSOP-B8/MSOP8
BU7486SF/SFV/SFVM												-40 to +105	SOP8/SSOP-B8/MSOP8
BU7487F/FV	4	3.0 to 5.5	6.0	1.0	0.001	8	V _{SS} to V _{DD} -1.4	V _{SS} +0.1 to V _{DD} -0.1	105	10	10.0	-40 to +85	SOP14/SSOP-B14
BU7487SF/SFV												-40 to +105	SOP14/SSOP-B14
BU7465HFV	1	1.7 to 5.5	0.12	1.0	0.001	8	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	100	1.0	1.2	-40 to +85	HVSOF5
BU7465SHFV												-40 to +105	HVSOF5
BU7495HFV	1	1.8 to 5.5	0.65	1.0	0.001	7	V _{SS} to V _{DD} -1.2	V _{SS} +0.1 to V _{DD} -0.1	100	5.0	4.0	-40 to +85	HVSOF5
BU7495SHFV												-40 to +105	HVSOF5

车载用接地检测运算放大器

BA3472YF-C/YFV-C/YFVM-C	2	3 to 36	4.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +125	SOP8/SSOP-B8/MSOP8
BA3474YFV-C	4	3 to 36	8.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +125	SSOP-B14
BA3472WVF-C	2	3 to 36	4.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +125	SSOP-B8
BA3474WVF-C	4	3 to 36	8.0	1.0	100	30	V _{EE} to V _{CC} -2.0	V _{EE} +0.3 to V _{CC} -1.0	100	10	4.0	-40 to +125	SSOP-B14

低消耗电流

输入输出全振幅运算放大器

Part No.	CH	Supply Voltage (V)	Circuit current (μA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package
BU7241G	1	1.8 to 5.5	70	1.0	0.001	10	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.4	0.9	-40 to +85	SSOP5
BU7241SG												-40 to +105	SSOP5
BU7242F/FVM/NUX	2	1.8 to 5.5	180	1.0	0.001	10	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.4	0.9	-40 to +85	SOP8/MSOP8/VSON008X2030
BU7242SF/SFVM/SNUX	2	1.8 to 5.5	180	1.0	0.001	10	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.4	0.9	-40 to +105	SOP8/MSOP8/VSON008X2030
BU7244F/FV	4	1.8 to 5.5	360	1.0	0.001	10	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.4	0.9	-40 to +85	SOP14/SSOP-B14
BU7244SF/SFV												-40 to +105	SOP14/SSOP-B14
BU7271G	1	1.8 to 5.5	8.6	1.0	0.001	4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	100	0.05	0.09	-40 to +85	SSOP5
BU7271SG												-40 to +105	SSOP5
BU7265G	1	1.8 to 5.5	0.35	1.0	0.001	2.4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.0024	0.004	-40 to +85	SSOP5
BU7265SG												-40 to +105	SSOP5
BU7266F/FV/FVM	2	1.8 to 5.5	0.7	1.0	0.001	2.4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.0024	0.004	-40 to +85	SOP8/SSOP-B8/MSOP8
BU7266SF/SFV/SFVM	2	1.8 to 5.5	0.7	1.0	0.001	2.4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.0024	0.004	-40 to +105	SOP8/SSOP-B8/MSOP8
BU7275HFV	1	1.8 to 5.5	40	1.0	0.001	8	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.3	0.6	-40 to +85	HVSOF5
BU7275SHFV												-40 to +105	HVSOF5
BU7205HFV	1	1.8 to 5.5	0.4	1.0	0.001	1.2	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.0025	0.0025	-40 to +85	HVSOF5
BU7205SHFV												-40 to +105	HVSOF5
BU7245HFV	1	1.8 to 5.5	5	1.0	0.001	4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.035	0.09	-40 to +85	HVSOF5
BU7245SHFV												-40 to +105	HVSOF5
BD7541G	1	5 to 14.5	180	1.0	0.001	4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.3	0.6	-40 to +85	SSOP5
BD7541SG												-40 to +105	SSOP5
BD7542F/FVM	2	5 to 14.5	400	1.0	0.001	4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.3	0.6	-40 to +85	SOP8/MSOP8
BD7542SF/SFVM	2	5 to 14.5	400	1.0	0.001	4	V _{SS} to V _{DD}	V _{SS} +0.1 to V _{DD} -0.1	95	0.3	0.6	-40 to +105	SOP8/MSOP8
BD12730G	1	1.8 to 6.0	320	1.0	50	5	GND to V ₊	0.1 to V ₊ -0.1	85	0.4	1.0	-40 to +85	SSOP5
BD12732F/FJ/FV/FVT/FVM/FVJ	2	1.8 to 6.0	580	1.0	50	5	GND to V ₊	0.1 to V ₊ -0.1	85	0.4	1.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J
BD12734F/FJ/FV/FVJ	4	1.8 to 6.0	1200	1.0	50	5	GND to V ₊	0.1 to V ₊ -0.1	85	0.4	1.0	-40 to +85	SOP14/SOP-J14/SSOP-B14/TSSOP-B14J
LMR931G	1	1.8 to 5.0	80	1.0	5	28	V _{SS} to V _{DD}	V _{SS} +0.04 to V _{DD} -0.05	100	0.4	1.4	-40 to +85	SSOP5
LMR932F/FJ/FV/FVT/FVM/FVJ	2	1.8 to 5.0	135	1.0	5	28	V _{SS} to V _{DD}	V _{SS} +0.04 to V _{DD} -0.05	100	0.4	1.4	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J
LMR934F/FJ/FV/FVJ	4	1.8 to 5.0	250	1.0	5	28	V _{SS} to V _{DD}	V _{SS} +0.04 to V _{DD} -0.05	100	0.4	1.4	-40 to +85	SOP14/SOP-J14/SSOP-B14/TSSOP-B14J
LMR981G	1	1.8 to 5.0	80	1.0	5	28	V _{SS} to V _{DD}	V _{SS} +0.04 to V _{DD} -0.05	100	0.4	1.4	-40 to +85	SSOP6
LMR982FVM	2	1.8 to 5.0	135	1.0	5	28	V _{SS} to V _{DD}	V _{SS} +0.04 to V _{DD} -0.05	100	0.4	1.4	-40 to +85	MSOP10

低消耗电流

接地检测运算放大器														
Part No.	CH	Supply Voltage (V)	Circuit current (μA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package	
BU7441G	1	1.7 to 5.5	50	1.0	0.001	6	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	95	0.3	0.6	-40 to +85	SSOP5	
BU7441SG													SSOP5	
BU7442F/FVM/NUX	2	1.7 to 5.5	100	1.0	0.001	6	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	95	0.3	0.6	-40 to +85	SOP8/MSOP8/VSON008X2030	
BU7442SF/SFVM/SNUX	2	1.7 to 5.5	100	1.0	0.001	6	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	95	0.3	0.6	-40 to +105	SOP8/MSOP8/VSON008X2030	
BU7444F	4	1.7 to 5.5	200	1.0	0.001	6	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	95	0.3	0.6	-40 to +85	SOP14	
BU7444SF													SOP14	
BU7421G	1	1.7 to 5.5	8.5	1.0	0.001	4	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	100	0.05	0.09	-40 to +85	SSOP5	
BU7421SG													SSOP5	
BU7411G	1	1.6 to 5.5	0.35	1.0	0.001	2.4	Vss to VDD-1.0	Vss+0.1 to VDD-0.1	95	0.0024	0.004	-40 to +85	SSOP5	
BU7411SG													SSOP5	
BU7445HFV	1	1.7 to 5.5	40	1.0	0.001	8	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	100	0.25	0.4	-40 to +85	HVSOF5	
BU7445SHFV													HVSOF5	
BU7475HFV	1	1.7 to 5.5	9	1.0	0.001	7	Vss to VDD-1.2	Vss+0.1 to VDD-0.1	100	0.05	0.1	-40 to +85	HVSOF5	
BU7475SHFV													HVSOF5	
BD1321G	1	2.7 to 5.5	130	0.1	15	70	VEE to VCC-0.8	VEE+0.08 to VCC-0.04	110	1.0	3.0	-40 to +85	SSOP5	
LMR321G	1	2.7 to 5.5	130	0.1	15	70	VEE to VCC-0.8	VEE+0.08 to VCC-0.04	110	1.0	3.0	-40 to +85	SSOP5	
LMR358F/FJ/FV/FVT/FVM/FVJ	2	2.7 to 5.5	210	0.1	15	70	VEE to VCC-0.8	VEE+0.08 to VCC-0.04	110	1.0	3.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J	
LMR324F/FJ/FV/FVJ	4	2.7 to 5.5	410	1.0	15	70	VEE to VCC-0.8	VEE+0.08 to VCC-0.04	110	1.0	3.0	-40 to +85	SOP14/SOP-J14/SSOP-B14/TSSOP-B14J	
LMR821G	1	2.5 to 5.5	280	1.0	30	16	Vss to VDD-0.9	Vss+0.12 to VDD-0.1	100	2.0	5.0	-40 to +85	SSOP5	
LMR822F/FJ/FV/FVT/FVM/FVJ	2	2.5 to 5.5	560	1.0	30	16	Vss to VDD-0.9	Vss+0.12 to VDD-0.1	100	2.0	5.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J	
New LMR824F	4	2.5 to 5.5	1120	1.0	30	16	Vss to VDD-0.9	Vss+0.12 to VDD-0.1	100	2.0	5.0	-40 to +85	SOP14	
New TLR342F/FJ/FVJ/FVT	2	1.8 to 5.5	150	0.3	0.001	8	Vss to VDD-1.0	Vss+0.055 to VDD-0.05	100	1.0	1.2	-40 to +85	SOP8/SOP-J8/TSSOP-B8/TSSOP-B8J	
New TLR344F	4	1.8 to 5.5	300	0.3	0.001	8	Vss to VDD-1.0	Vss+0.055 to VDD-0.05	100	1.0	1.2	-40 to +85	SOP14	
LMR341G	1	2.7 to 5.5	100	0.25	0.001	24	Vss to VDD-1.0	Vss+0.06 to VDD-0.06	103	1.0	2.0	-40 to +85	SSOP5	
LMR342F/FJ/FV/FVT/FVM/FVJ	2	2.7 to 5.5	200	0.25	0.001	24	Vss to VDD-1.0	Vss+0.06 to VDD-0.06	103	1.0	2.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J	
New LMR344F/LMR344FJ/FVJ	4	2.7 to 5.5	400	0.25	0.001	24	Vss to VDD-1.0	Vss+0.06 to VDD-0.06	103	1.0	2.0	-40 to +85	SOP14/SOP-J14/TSSOP-B14J	

低噪声

输出全振幅运算放大器														
Part No.	CH	Supply Voltage (V)	Circuit current (mA)	Input offset voltage (mV)	Input bias current (nA)	Input referred noise voltage (μVrms)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Slew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package	
BA4510F/FV/FVM/FVT	2	±1 to ±3.5	5.0	1.0	80	0.7	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +0.1 to V _{CC} -0.1	90	5.0	10.0	-20 to +75	SOP8/SSOP-B8/MSOP8/TSSOP-B8	
BA2107G	1	±1 to ±7	1.8	1.0	150	0.9	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +0.3 to V _{CC} -0.3	80	4.0	12.0	-40 to +85	SSOP5	
BA2115F/FJ/FVM	2	±1 to ±7	3.5	1.0	150	0.9	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +0.3 to V _{CC} -0.3	80	4.0	12.0	-40 to +85	SOP8/SOP-J8/MSOP8	
车载用运算放大器														
BA4558YF-M/YFV-M/YFVM-M	2	±4 to ±15	3.0	0.5	60	1.8	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	1.0	2.0	-40 to +105	SOP8/SSOP-B8/MSOP8	
BA4560YF-M/YFV-M/YFVM-M	2	±4 to ±15	3.0	0.5	50	1.0	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	4.0	4.0	-40 to +105	SOP8/SSOP-B8/MSOP8	
BA4580YF-M/YFVM-M	2	±2 to ±16	6.0	0.3	100	0.8	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +1.5 to V _{CC} -1.5	110	5.0	10.0	-40 to +105	SOP8/MSOP8	
BA4584YFV-M	4	±2 to ±16	11.0	0.3	100	0.8	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +1.5 to V _{CC} -1.5	110	5.0	10.0	-40 to +105	SSOP-B14	
双电源运算放大器														
BA4558F/BA4558FJ/FV/FVM/FVT	2	±4 to ±15	3.0	0.5	60	1.8	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	1.0	2.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/MSOP8/TSSOP-B8	
BA4558RF/RFJ/RFV/RFVM/RFVT	2	±4 to ±15	3.0	0.5	60	1.8	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	1.0	2.0	-40 to +105	SOP8/SOP-J8/SSOP-B8/MSOP8/TSSOP-B8	
BA4560F/FJ/FV/FVM/FVT	2	±4 to ±15	4.0	0.5	50	1.0	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	4.0	10.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/MSOP8/TSSOP-B8	
BA4560RF/RFJ/RFV/RFVM/RFVT	2	±4 to ±15	3.0	0.5	50	1.0	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	4.0	4.0	-40 to +105	SOP8/SOP-J8/SSOP-B8/MSOP8/TSSOP-B8	
BA4564RFV	4	±4 to ±15	6.0	0.5	50	1.0	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	4.0	4.0	-40 to +105	SSOP-B14	
BA15218F	2	±2 to ±16	5.0	0.5	50	1.0	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +2.0 to V _{CC} -2.0	110	3.0	10.0	-40 to +85	SOP8	
BA14741F/FJ	4	±2 to ±18	3.0	1.0	60	2.0	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +2.5 to V _{CC} -2.5	100	1.0	2.0	-40 to +85	SOP14/SOP-J14	
BA15532F	2	±3 to ±20	8.0	0.5	200	1.5	V _{EE} +2.0 to V _{CC} -2.0	V _{EE} +2.0 to V _{CC} -2.0	94	8.0	20.0	-20 to +75	SOP8	
BA4580RF/RFJ/RFVM/RFVT	2	±2 to ±16	6.0	0.3	100	0.8	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +1.5 to V _{CC} -1.5	110	5.0	5.0	-40 to +105	SOP8/SOP-J8/MSOP8/TSSOP-B8	
BA4584FV	4	±2 to ±16	12.0	0.3	100	0.8	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +1.5 to V _{CC} -1.5	110	5.0	5.0	-40 to +85	SSOP-B14	
BA4584RF/RFV	4	±2 to ±9.5	11.0	0.3	100	0.8	V _{EE} +1.5 to V _{CC} -1.5	V _{EE} +1.5 to V _{CC} -1.5	110	5.0	5.0	-40 to +105	SOP14/SSOP-B14	
LM4559F/FJ/FV/FVT/FVM/FVJ	2	±4 to ±18	3.3	0.5	40	0.7	V _{EE} +2.0 to V _{CC} -2.0	V _{EE} +1.5 to V _{CC} -1.5	110	3.5	4.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J	
LM4565F/FJ/FV/FVT/FVM/FVJ	2	±4 to ±18	4.5	0.5	70	0.6	V _{EE} +1.0 to V _{CC} -1.0	V _{EE} +1.0 to V _{CC} -1.0	100	5.0	10.0	-40 to +85	SOP8/SOP-J8/SSOP-B8/TSSOP-B8/MSOP8/TSSOP-B8J	

放大器

低偏置电压

接地检测运算放大器													
Part No.	CH	Supply Voltage (V)	Circuit current (mA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Output voltage range (V)	Voltage gain (dB)	Stew rate (V/μs)	Gain bandwidth product (MHz)	Operating temperature (°C)	Package
BU5281G	1	1.8 to 5.5	0.75	0.1	0.001	8	Vss to VDD−1.2	Vss+0.1 to VDD−0.1	110	2.0	3.0	−40 to +85	SSOP5
BU5281SG												−40 to +105	SSOP5
BA2904WF/WFV	2	3 to 36	0.5	0.5	20	30	VEE to VCC−1.5	VEE to VCC−1.5	100	0.2	0.5	−40 to +125	SOP8/SSOP-B8
双电源运算放大器													
BA4564WV	4	±4 to ±15	6.0	0.5	50	25	VEE+1.0 to VCC−1.0	VEE+1.0 to VCC−1.0	100	4.0	4.0	−40 to +105	SSOP-B14
BA8522RF/RFV/RFVM	2	±2 to ±16	5.5	0.1	50	50	VEE+1.5 to VCC−1.5	VEE+1.5 to VCC−1.5	110	3.0	6.0	−40 to +105	SOP8/SSOP-B8/MSOP8
输入输出全振幅运算放大器													
BD5291G	1	1.7 to 5.5	0.65	0.1	0.001	6	Vss to VDD	Vss+0.1 to VDD−0.1	110	2.5	3.2	−40 to +85	SSOP5
LM7101G	1	1.8 to 5.0	1.05	0.1	0.001	80	Vss to VDD	Vss+0.1 to VDD−0.1	100	1.2	1.5	−40 to +85	SSOP5

比较器

通用

集电极开路比较器											
Part No.	CH	Supply Voltage (V)	Circuit current (mA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Voltage gain (dB)	Response time (μs)	Operating temperature (°C)	Package
BA8391G	1	2 to 36	0.3	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +85	SSOP5
BA2903F/FV/FVM	2	2 to 36	0.6	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP8/SSOP-B8/MSOP8
New BA2903YF-LB	2	2 to 36	0.6	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP8
BA2903SF/SFV/SFVM	2	2 to 36	0.6	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +105	SOP8/SSOP-B8/MSOP8
BA2901F/FV	4	2 to 36	0.8	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP14/SSOP-B14
New BA2901YF-LB	4	2 to 36	0.8	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP14
BA2901SF/SFV	4	2 to 36	0.8	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +105	SOP14/SSOP-B14
BA10393F	2	2 to 36	0.4	1	50	16	VEE to VCC−1.5	106	1.3	−40 to +85	SOP8
BA10393F/FV	4	3 to 36	0.8	1	50	16	VEE to VCC−1.5	106	1.3	−40 to +85	SOP14/SSOP-B14
车载用集电极开路比较器											
BA2903YF-C/YFV-C/YFVM-C	2	2 to 36	0.6	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP8/SSOP-B8/MSOP8
BA2901YF-C/YFV-C	4	2 to 36	0.8	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP14/SSOP-B14
BA2903YF-M/YFV-M/YFVM-M	2	2 to 36	0.6	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP8/SSOP-B8/MSOP8
BA2901YF-M/YFV-M	4	2 to 36	0.8	2	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP14/SSOP-B14

高速

推挽输出比较器											
Part No.	CH	Supply Voltage (V)	Circuit current (μA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Voltage gain (dB)	Response time (μs)	Operating temperature (°C)	Package
BU7251G	1	1.8 to 5.5	15	1	0.001	6	Vss to VDD	90	0.55	−40 to +85	SSOP5
BU7251SG										−40 to +105	SSOP5
BU7252F/FVM	2	1.8 to 5.5	35	1	0.001	6	Vss to VDD	90	0.55	−40 to +85	SOP8/MSOP8
BU7252SF/SFVM	2	1.8 to 5.5	35	1	0.001	6	Vss to VDD	90	0.55	−40 to +105	SOP8/MSOP8
BU5265HFV	1	1.8 to 5.5	22	1	0.001	3.5	Vss to VDD	90	0.5	−40 to +85	HVSOF5
BU5265SHFV										−40 to +105	HVSOF5
漏极开路比较器											
BU7250G	1	1.8 to 5.5	15	1	0.001	6	Vss to VDD	90	0.75	−40 to +85	SSOP5
BU7250SG										−40 to +105	SSOP5
BU7253F	2	1.8 to 5.5	35	1	0.001	6	Vss to VDD	90	0.75	−40 to +85	SOP8
BU7253SF										−40 to +105	SOP8

低消耗电流

推挽输出比较器											
Part No.	CH	Supply Voltage (V)	Circuit current (μ A)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Voltage gain (dB)	Response time (μ s)	Operating temperature ($^{\circ}$ C)	Package
BU7231G	1	1.8 to 5.5	5	1	0.001	6	Vss to VDD	90	1.7	−40 to +85	SSOP5
BU7231SG										−40 to +105	SSOP5
BU7232F/FVM	2	1.8 to 5.5	10	1	0.001	6	Vss to VDD	90	1.7	−40 to +85	SOP8/MSOP8
BU7232SF/SFVM	2	1.8 to 5.5	10	1	0.001	6	Vss to VDD	90	1.7	−40 to +105	SOP8/MSOP8
BU5255HFV	1	1.8 to 5.5	6.5	1	0.001	3.5	Vss to VDD	90	1.6	−40 to +85	HVSOF5
BU5255SHFV										−40 to +105	HVSOF5
漏极开路比较器											
BU7230G	1	1.8 to 5.5	5	1	0.001	6	Vss to VDD	90	1.8	−40 to +85	SSOP5
BU7230SG										−40 to +105	SSOP5
BU7233F	2	1.8 to 5.5	10	1	0.001	6	Vss to VDD	90	1.8	−40 to +85	SOP8
BU7233SF										−40 to +105	SOP8

低偏置电压

集电极开路比较器											
Part No.	CH	Supply Voltage (V)	Circuit current (μA)	Input offset voltage (mV)	Input bias current (nA)	Output current (mA)	Input voltage range (V)	Voltage gain (dB)	Response time (μs)	Operating temperature (°C)	Package
BA2903WF/WFV	2	2 to 36	0.6	0.5	50	16	VEE to VCC−1.5	100	1.3	−40 to +125	SOP8/SSOP-B8

晶体管阵列

达林顿晶体管阵列

集电极开路											
Part No.	Number of bit	Output Withstand Voltage (V)	Output Saturation Voltage (V)	Output current (mA)	Input Resistance (kΩ)	Input/output relation	Input Active Level	Output current relation	Circuit Construction	Features	Package
BA12003B/BF	7	60	1.46 [※]	500	2.7	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	DIP16/SOP16
BA12004B/BF	7	60	1.46 [※]	500	10.5	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	DIP16/SOP16

※ 输出电流 = 350mA

LVDS接口IC

4bit LVDS驱动器									
Part No.	Type	Bits (bit)	Color depth	Input specification	Output specification	Clock frequency (MHz)	Supply voltage (V)	Operating temperature range (°C)	Package
BU90LV047A	Driver	4	—	LVC MOS	LVDS	250	3.0 to 3.6	−40 to +85	SSOP-B16
4bit LVDS接收器									
BU90LV048	Receiver	4	—	LVDS	LVC MOS	250	3.0 to 3.6	−40 to +85	SSOP-B16
4bit LVDS收发器									
BU90LV049A	Transceiver	4	—	LVC MOS/LVDS	LVC MOS/LVDS	250	3.0 to 3.6	−40 to +85	SSOP-B16

CLOCKLESS LINK接口IC

Clockless Link 串行器/并行器											
Part No.	Function	Input Signal Type	Output Signal Type	No. of Rx	No. of Tx	Clock frequency (MHz)	Clockless Transfer Rates (Gbps)	Parallel Bus Width (bit)	Supply voltage (V)	Operating temperature range (°C)	Package
BU17074KV	Serializer/Deserializer	LVC MOS	LVDS Single Link	1/—	1/—	20 to 75	2.7	28	2.3 to 3.6	−40 to +85	VQFP64
BU17101AKV-M	Serializer	LVC MOS	Clockless Link	—	1	30 to 51	1.63	24	2.3 to 3.6	−40 to +85	VQFP48
BU17102AKV-M	Deserializer	Clockless Link	LVC MOS	1	—	30 to 51	1.63	24	2.3 to 3.6	−40 to +85	VQFP48

GPIO

IO扩展									
Part No.	Supply Voltage (V)	Num. of GPIO port	Serial I/F	Power On Reset	Num. of Slave Address	Output	Num. of IO V _{DD}	Keypress Func.	Package
BU1850MUV	1.65 to 3.60	8	I ² C	✓	2	CMOS, Open drain	1	—	VQFN016V3030

隔离器

2.5kVrms隔离器								
Part No.	Supply Voltage (V)	V _{CC1} Supply Current 1@DC (mA)	V _{CC2} Supply Current 2@DC (mA)	Channel number (ch)	Max. Propagation delay (ns)	Isolation Voltage (Vrms)	Operating Temperature Range (°C)	Package
BM67220FV-C	4.5 to 5.5	0.21	0.21	2	45	2.5k	−40 to +125	SSOP-B20W
BM67221FV-C	4.5 to 5.5	0.21	0.21	2	45	2.5k	−40 to +125	SSOP-B20W

PLC(电力线通信)

"HD-PLC"inside规格基带IC											
Part No.	Compatible Standard	Operating Frequency Band	Supply voltage (V)	Modulation Method	FEC Mode	Control I/F	Communication Speed	Transmission Output	Receiving Sensitivity	Operating Temperature Range (°C)	Package
BU82204MWV	HD-PLC Inside	2 to 28MHz	1.45 to 1.55 3.0 to 3.6	Wavelet OFDM	AES128	UART or SPI	up to 3Mbps	−10dBm/10KHz	−88dBm/10KHz	−40 to +85	UQFN88MV0100

线性稳压器

标准稳压器(3引脚稳压器)

关于输入电压，请考虑输出电压值以及输入输出电压差后使用。

1A输出 3引脚稳压器									
Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Circuit current (mA)	Thermal Shutdown circuit	Area of safety operation circuit	Over current protection circuit	Package
BA178xx Series	35	5/6/7/8/9/10/12/15/18/20/24	±4	1	4.5	✓	✓	✓	TO220CP-3/ TO252-3
Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Adjustment Pin Current (μA)	Reference Voltage (V)	Protection circuit	Over-Current / Temperature	Package
New BA1117FP	15	Variable	±1	1	60	1.2(10=1A)			TO252-3
500mA输出 3引脚稳压器									
Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Circuit current (mA)	Thermal Shutdown circuit	Area of safety operation circuit	Over current protection circuit	Package
BA178Mxx Series	35	5/6/7/8/9/10/12/15/18/20/24	±4	0.5	4.5	✓	✓	✓	TO220CP-3/ TO252-3



IC

电源管理

线性稳压器

单通道输出 低饱和稳压器 (LDO)

关于输入电压, 请考虑输出电压值以及输入输出电压差后使用。

50V耐压 500mA LDO稳压器 (车载等级)

Part No.		Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Saturation voltage : Io=200mA(V)	Circuit current (μA)	Operating temperature (°C)	Notes	Package
Consumer	Automotive grade									
BD3570Yxx Series	New BD3575Yxxx-M Series	4.5 to 36.0(3.3)/(Variable)/ 5.5 to 36.0(5.0)/	3.3/5.0/ Variable 2.8 to 12.0	±2 (Ta=-40 to +125°C)	0.5	-(3.3)/ 0.25(5.0)	30	-40 to +125	EN/OCP/TSD	TO252-3 TO252-5 HRP5

50V耐压 低待机电流200mA LDO稳压器 (车载等级)

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Saturation voltage : Io=200mA(V)	Circuit current (μA)	Operating temperature (°C)	Notes	Package
BD7xxL2EFJ-C Series BD7xxL2FP-C Series ☆BD7xxL2FP3-C Series	4.37 to 45.0(3.3)/ 5.8 to 45.0(5.0)	3.3/5.0	±2 (Ta=-40 to +125°C)	0.2	0.4(3.3)/ 0.6(5.0)	6.0	-40 to +125	OCP/TSD	HTSOP-J8 TO252-3 SOT223-4

50V耐压 低待机电流500mA LDO稳压器 (车载等级)

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Saturation voltage : Io=200mA(V)	Circuit current (μA)	Operating temperature (°C)	Notes	Package
BD7xxL5FP-C Series	4.17 to 45.0(3.3)/ 5.6 to 45.0(5.0)	3.3/5.0	±2 (Ta=-40 to +125°C)	0.5	0.4(3.3)/0.25(5.0)	6.0	-40 to +125	OCP/TSD	TO252-3

45V耐压 低待机电流500mA LDO稳压器 (车载等级)

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	I/O Voltage Difference (V)	Circuit current (μA)	Operating temperature (Tj)	Notes	Package
BD4xxM5 Series BD4xxM5W Series	4.0 to 42.0(3.3)/ 5.5 to 42.0(5.0)	3.3/5.0	±2 (Tj=-40 to +150°C)	0.5	0.25(Io=300mA)(3.3)/ 0.2(Io=300mA)(5.0)	38/40	-40 to +150	EN/OCP/TSD	TO252-3 TO263-3 TO263-5 TO252-J5

45V耐压 低待机电流200mA LDO稳压器 (车载等级)

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	I/O Voltage Difference (V)	Circuit current (μA)	Operating temperature (°C)	Notes	Package
BD4xxM2 Series BD4xxM2W Series	3.9 to 42.0(3.3)/ 5.5 to 42.0(5.0)	3.3/5.0	±2 (Tj=-40 to +125°C)	0.2	0.2(Io=100mA)(3.3)/ 0.16(Io=100mA)(5.0)	40	-40 to +150°C	EN/OCP/TSD	HTSOP-J8 SOT223-4

36V耐压 300mA LDO稳压器 (车载等级)

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	I/O Voltage Difference (V)	Circuit current (μA)	Operating temperature (Tj)	Notes	Package
BD3650FP-M	5.6 to 30.0	5.0	±2 (Ta=-40 to +125°C)	0.3	0.2 (Io=200mA)	0.5	-40 to +125	OCP/TSD	TO252-3

35V耐压 2A LDO稳压器 带关断开关

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BAxxDD0T Series	3 to 25	1.5/1.8/2.5/3.0/3.3/5.0/9.0/12.0/16.0	±1.0	2.0	0.9	0.45 (Io=2A)	OVP/OCP/TSD	TO220FP-3
BAxxDD0W Series	3 to 25	1.5/1.8/2.5/3.0/3.3/5.0/9.0/12.0/16.0	±1.0	2.0	0.9	0.45 (Io=2A)	OVP/OCP/TSD/EN	TO220FP-5 HRP5
BD00D0AWHFP	4.0 to 26.5	3.0 to 15.0	±1.0	2.0	0.5	0.4(Io=1A)	OCP/TSD/EN	HRP5

35V耐压 1A LDO稳压器 带关断开关

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BAxxCC0 Series	4 to 25	3.0/3.3/5.0/6.0/7.0/8.0/9.0/ 10.0/12.0/15.0	±2.0	1.0	2.5	0.30 (Io=0.5A)	OVP/OCP/TSD	TO220FP-3 TO252-3
BDxx0C0AFPS Series	9.0 to 26.5	8/9	±1.0	1.0	0.6	0.30 (Io=0.5A)	OCP/TSD	TO252S-3
New BDxxFC0WEFJ Series	35	Variable 1.0 to 15.0/ 3/3.3/6/7/8/9/10/12/15	±1	1	0.5	0.3 (Io=500mA)	OCP/TSD/EN	HTSOP-J8
BAxxCC0W Series	4 to 25	Variable 3.0 to 15.0/ 3.0/3.3/5.0/6.0/7.0/8.0/9.0/10.0/12.0	±2.0	1.0	2.5	0.30 (Io=0.5A)	OVP/OCP/TSD/EN	TO220FP-5 TO252-5

35V耐压 1A LDO稳压器 (车载级产品) * Vo是输出电压 / 单位: V

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BDxxC0A Series	4.3 to 26.5(3.3)/ 6.0 to 26.5(5.0)/ 9.0 to 26.5(8.0)/ 10.0 to 26.5(9.0)	3.3/5.0/8.0/9.0	±3.0 (Ta=-40 to +125°C)	1.0	0.5	0.4/0.3 (Io=500mA)	OCP/TSD	TO252-3 HRP5 TO263-3
BDxxC0AW Series	4.0 to 26.5(Variable)/ 4.3 to 26.5(3.3)/ 6.0 to 26.5(5.0)	Variable 3.0 to 15.0/ 3.3/5.0	±1.0	1.0	0.5	0.30/0.40 (Io=0.5A)	OCP/TSD/EN	TO252-5 TO220CP-V5

35V耐压 1A LDO稳压器 带关断开关

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)		Output current (A)	I/O Voltage Difference (V)	Notes	Package
BD00C0AWFPS-M	4.0 to 26.5	Variable 3.0 to 15.0	±3 (Ta=−40 to +105°C)		1.0	0.3 (Io=500mA)	OCP/TSD/EN	TO252S-55
Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BDxxC0AW Series	4.0 to 26.5(Variable 1.0 to 15.0)/ 4.3 to 26.5(3.3)/ 6.0 to 26.5(5.0)/ 9.0 to 26.5(8.0)/ 10.0 to 26.5(9.0)	(Variable 1.0 to 15.0)/ 3.3/5.0/8.0/9.0	±3.0 (Ta=−40 to +125°C)	1.0	0.5	−(3.3)/0.3 (Io=500mA)	OCP/TSD/EN	TO252-5 HRP5 TO263-5

35V耐压 300mA LDO稳压器 带关断开关

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BA3662C P-V5	4 to 25	Variable 3.0 to 15.0	±2.0	0.3	2.5	0.3 (Io=0.2A)	OVP/OCP/TSD	TO252-3 HRP5 TO263-3

30V耐压 100mA LDO稳压器

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxFA1FP3 Series	30	3.3/5.0/5.4/12.0	±1	1	0.5	0.3 (Io=500mA)	OCP/TSD	SOT89-3

18V耐压 1.5A LDO稳压器

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BAxxJC5T Series	3 to 16	1.5/1.8/2.5/3.0/3.3/5.0/6.0/6.3/ 8.0/9.0	±1.0	1.5	0.5	0.3 (Io=500mA)	OCP/TSD	TO220FP-3

18V耐压 1.5A LDO稳压器 带关断开关

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BA00JC5WT Series	3 to 16	Variable 1.5 to 12.0	±1.0	1.5	0.5	0.3 (Io=500mA)	OCP/TSD/EN	TO220FP-5

18V耐压 1A LDO稳压器

Part No.	Input voltage (V)	Output voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BA00JC5T Series	3 to 16	1.5/1.8/2.5/3.0/3.3/5.0/6.0/7.0/ 8.0/9.0/10.0	±2.0	1.0	0.5/0.6	0.3 (Io=200mA)	OCP/TSD	TO252-3 TO220FP-3

*OCP: 过电流保护功能, OVP: 过电压保护功能, TSD: 过热保护功能, EN: 输出/待机控制

☆: 开发中

单通道输出 低饱和稳压器 (LDO)

关于输入电压, 请考虑输出电压值以及输入输出电压差后使用。

18V耐压 1A LDO稳压器 带关断开关

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BAxxBC0W Series	3 to 16	Variable 1.5 to 12.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0	±2.0	1.0	0.5 (Vo≤6.0)/0.5/0.6	0.3 (Io=200mA)	OCP/TSD/EN	TO252-5 TO220FP-5

15V耐压 1A LDO稳压器 带关断开关 (消费电子产品 / 车载级产品)

Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
Consumer	Automotive grade								
BDxxGC0WEFJ Series	BDxxGC0MEFJ-M Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	1.0	0.6	0.6 (Io=1A)	OCP/TSD/EN	HTSOP-J8

15V耐压 1A 可变输出 / 固定输出 工业设备用LDO稳压器

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxGC0MEFJ-LB Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±3.0 (Ta=-40 to +105°C)	1.0	0.6	0.6 (Io=1A)	OCP/TSD/EN	HTSOP-J8

15V耐压 500mA LDO稳压器 带关断开关 (消费电子产品 / 车载级产品)

Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
Consumer	Automotive grade								
BDxxGA5WEFJ Series	BDxxGA5MEFJ-M Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	0.5	0.6	0.6 (Io=500mA)	OCP/TSD/EN	HTSOP-J8

15V耐压 500mA 可变输出 / 固定输出 工业设备用LDO稳压器

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxGA5MEFJ-LB Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±3.0 (Ta=-40 to +105°C)	0.5	0.6	0.6 (Io=500mA)	OCP/TSD/EN	HTSOP-J8

15V耐压 300mA LDO稳压器 带关断开关 (消费电子产品)

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BDxxGA3W Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±1.0	0.3	0.6	0.6 (Io=300mA)	OCP/TSD/EN	HTSOP-J8 VSON008X2030

15V耐压 300mA LDO稳压器 带关断开关 (车载级产品)

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
BDxxGA3MEFJ-M Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±3.0 (Ta=-40 to +105°C) <Automotive grade>	0.3	0.6	0.6 (Io=300mA)	OCP/TSD/EN	HTSOP-J8

15V耐压 300mA 可变输出 / 固定输出 工业设备用LDO稳压器

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxGA3MEFJ-LB Series	4.5 to 14.0	Variable 1.5 to 13.0/ 1.5/1.8/2.5/3.0/3.3/5.0/ 6.0/7.0/8.0/9.0/10.0/12.0	±3.0 (Ta=-40 to +105°C)	0.3	0.6	0.6 (Io=300mA)	OCP/TSD/EN	HTSOP-J8

10V耐压 1.5A LDO稳压器 带关断开关 (消费电子产品 / 车载级产品)

Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
Consumer	Automotive grade								
BDxxHC5WEFJ Series	BDxxHC5MEFJ-M Series	4.5 to 8.0	Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/ 3.5/5.0/6.0/7.0	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	1.5	0.6	0.6 (Io=1.5A)	OCP/TSD/EN	HTSOP-J8

10V耐压 1.5A 可变输出 / 固定输出 工业设备用LDO稳压器

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxHC5MEFJ-LB Series	4.5 to 8.0	Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/5.0/6.0/7.0	±1.0/±3.0 (Ta=-40 to +105°C)	1.5	0.6	0.6 (Io=1.5A)	OCP/TSD/EN	HTSOP-J8

10V耐压 1A LDO稳压器 带关断开关 (消费电子产品 / 车载级产品)

Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
Consumer	Automotive grade								
BDxxHC0WEFJ Series	BDxxHC0MEFJ-M Series	4.5 to 8.0	Automotive grade Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/ 5.0/6.0/7.0	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	1.0	0.6	0.6 (Io=1A)	OCP/TSD/EN	HTSOP-J8

10V耐压 1A 可变输出 / 固定输出 工业设备用LDO稳压器

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxHC0MEFJ-LB Series	4.5 to 8.0	(Variable 1.5 to 7.0)/ 1.5/1.8/2.5/3.0/3.3/5.0/6.0/7.0	±3.0 (Ta=-40 to +105°C)	1.0	0.6	0.6 (Io=1A)	OCP/TSD/EN	HTSOP-J8

10V耐压 500mA LDO稳压器 带关断开关 (消费电子产品 / 车载级产品)

Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
Consumer	Automotive grade								
BDxxHA5WEFJ Series	BDxxHA5MEFJ-M Series	4.5 to 8.0	Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/ 5.0/6.0/7.0	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	0.5	0.6	0.6 (Io=500mA)	OCP/TSD/EN	HTSOP-J8

10V耐压 500mA 可变输出 / 固定输出 工业设备用LDO稳压器

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
New BDxxHA5MEFJ-LB Series	4.5 to 8.0	Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/5.0/6.0/7.0	±3.0 (Ta=-40 to +105°C)	0.5	0.6	0.6 (Io=500mA)	OCP/TSD/EN	HTSOP-J8

10V耐压 300mA LDO稳压器 带关断开关(消费电子产品 / 车载级产品)

Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
Consumer	Automotive grade								
BDxxHA3WEFJ Series	BDxxHA3MEFJ-M Series	4.5 to 8.0	Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/ 5.0/6.0/7.0	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	0.3	0.6	0.6 (Io=300mA)	OCP/TSD/EN	HTSOP-J8

*OCP: 过电流保护功能, OVP: 过电压保护功能, TSD: 过热保护功能, EN: 输出/待机控制

线性稳压器

单通道输出 低饱和稳压器 (LDO)

关于输入电压, 请考虑输出电压值以及输入输出电压差后使用。

10V耐压 300mA 可变输出 / 固定输出 工业设备用LDO稳压器										
	Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package	
New	BDxxHA3MEFJ-LB Series	4.5 to 8.0	Variable 1.5 to 7.0/ 1.5/1.8/2.5/3.0/3.3/5.0/6.0/7.0	±3.0 (Ta=-40 to +105°C)	0.3	0.6	0.6 (Io=300mA)	OCP/TSD/EN	HTSOP-J8	
7V耐压 1A LDO稳压器 带关断开关										
	BDxxIC0W Series	2.3 to 5.5/ 2.4 to 5.5	Variable 0.8 to 4.5/ 1.0/1.2/1.25/1.5/1.8/2.5/2.6/3.0/3.3	±1.0	1.0	0.3	0.4 (Io=1A)	OCP/TSD/EN	HTSOP-J8 HVSOF6	
7V耐压 1A LDO稳压器 带关断开关(车载级产品)										
	BD00IC0MEFJ-M Series	2.3 to 5.5/ 2.4 to 5.5	Variable 0.8 to 4.5/ 1.0/1.2/1.5/1.8/2.5/3.0/3.3	±3.0 (Ta=-40 to +105°C)	1.0	0.3	0.4 (Io=1A)	OCP/TSD/EN	HTSOP-J8	
7V耐压 1A 可变输出 / 固定输出 工业设备用LDO稳压器										
New	BDxxIC0MEFJ-LB Series	2.3 to 5.5/ 2.4 to 5.5	Variable 0.8 to 4.5/ 1.0/1.2/1.5/1.8/2.5/3.0/3.3	±3.0 (Ta=-40 to +105°C)	1.0	0.3	0.4 (Io=1A)	OCP/TSD/EN	HTSOP-J8	
7V耐压 500mA LDO稳压器 带关断开关(消费电子产品 / 车载级产品)										
	Part No.		Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package
	Consumer	Automotive grade								
	BDxxIA5WEFJ Series	BDxxIA5MEFJ-M Series	2.3 to 5.5	Variable 0.8 to 4.5/ 1.0/1.2/1.5/1.8/2.5/3.0/3.3	±1.0/±3.0 (Ta=-40 to +105°C) <Automotive grade>	0.5	0.25	0.4 (Io=500mA)	OCP/TSD/EN	HTSOP-J8
7V耐压 500mA 可变输出 / 固定输出 工业设备用LDO稳压器										
	Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Notes	Package	
New	BDxxIA5MEFJ-LB Series	2.3 to 5.5	Variable 0.8 to 4.5/ 1.0/1.2/1.5/1.8/2.5/3.0/3.3	±1.0/±3.0 (Ta=-40 to +105°C)	0.5	0.25	0.4 (Io=500mA)	OCP/TSD/EN	HTSOP-J8	
7V耐压 500mA LDO稳压器 带关断开关										
	BDxxKA5 Series	2.3 to 5.5	1.0/1.2/1.5/1.8/2.5/3.0/3.3	±1.0	0.5	0.35	0.12 (Io=200mA)	OCP/TSD/EN	TO252-3 TO252-5 SOP8	
500mA Full CMOS LDO稳压器										
	BUxxTH5WNVX Series	1.7 to 6.0	1.05/1.2/2.85/3.5	±1	0.5	0.01	0.52 Vo=1.05V/ (Io=250mA)	OCP	SSON004 X1010	
500mA Full CMOS LDO稳压器 带关断开关 WL-CSP型										
New	BUxxSA5WGWZ Series	1.8 to 5.0	3/3.3	±1	0.5	0.033	0.08 (Io=100mA)	OCP/TSD	UCSP30L1	
360mA Full CMOS LDO稳压器 带关断开关										
	Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	I/O Voltage Difference (mV)	Circuit current (μA)	Notes	Package (mm)	
New	BUxxUB3WGW Series	1.7 to 3.6	1.20/1.80/2.50	±1	0.36	200mV (Io=300mA, Vout=2.5V)	50	OCP/TSD/EN/ DCF	SSOP5	
300mA Full CMOS LDO稳压器 带关断开关										
	BUxxUA3WNVX Series	1.7 to 5.5	1.00 to 3.70 0.05V STEP ^{*1}	±25mV/±1	0.3	200mV (Io=300mA, Vout=2.5V)	50	OCP/TSD/EN/ DCF	SSON004X1010	
300mA CMOS LDO稳压器 带关断开关										
	BHxxM0AWHFV Series	2.5 to 5.5	1.5/1.8/2.0/2.1/2.5/2.6/2.7/2.8/ 2.9/3.0/3.1/3.2/3.3/3.4	±25mV/±1	0.3	60 (Io=100mA)	65	OCP/TSD/EN	HVSOF6	
	BHxxMA3WHFV Series	2.5 to 5.5	1.5/1.8/2.5/2.8/2.9/3.0/3.1/3.3	±25mV/±1	0.3	60 (Io=100mA)	65	OCP/TSD/EN	HVSOF6	
200mA CMOS LDO稳压器 带关断开关										
	BUxxTD2WNVX Series	1.7 to 5.5	1.0 to 3.4 ^{*1}	±25mV ±1	0.2	280 Vo=1V (Io=200mA)	35	OCP/TSD/EN/ DCF	SSON004X1010	
	BUxxTD3WGW Series								SSOP5	
	BUxxTA2W Series	2.5 to 5.5	1.5/1.8/2.5/2.6/2.7/2.8/2.85/2.9/ 3.0/3.1/3.2/3.3/3.4	±25mV ±1	0.2	400 Vo=2.5V (Io=200mA)	40	OCP/TSD/EN/ DCF	SSON004X1216 HVSOF5	
200mA CMOS LDO稳压器 带关断开关(车载级产品)										
	BUxxSD2MG-M Series	1.7 to 6.0	1.20/1.50/1.80/2.50/2.80/3.00/3.30	±2 (Ta=-40°C to +105°C)	0.2	400 Vo=1.2V (Io=100mA)	33	OCP/TSD/EN	SSOP5	
200mA CMOS LDO稳压器 带关断开关 WL-CSP型										
	BUxxSA4WGWL Series	1.7 to 5.5	1.8/2.5/2.55/2.8/3.0/3.3	±2	0.2	100 Vo=1.8V (Io=150mA)	40	OCP/TSD/EN	UCSP50L1 (0.8×0.8)H=0.55 Max.	

^{*1} 存在部分无电压的情形。
*OCP: 过电流保护功能; TSD: 过热保护功能; EN: 输出/待机控制; DCF: 放电功能

单通道输出 低饱和稳压器 (LDO)

关于输入电压, 请考虑输出电压值以及输入输出电压差后使用。

150mA CMOS LDO稳压器 带关断开关										
Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)		Output current (A)	I/O Voltage Difference (mV)	Circuit current (μA)		Notes	Package (mm)
BHxxNB1WHFV Series	2.5 to 5.5	2.5/2.8/2.85/2.9/3.0/3.1/3.3	±1		0.15	250 (Io=100mA)	60		OCP/TSD/EN	HVSOF5
BHxxRB1WGUT Series	2.5 to 5.5	1.5/1.8/2.5/2.8/2.9/3.0/3.1/3.3	±25mV/±1		0.15	100 Vout=2.5V (Io=100mA)	34		OCP/TSD/EN	VCSP60N1 (1.04 × 1.0) H=0.675Max.
Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision(%) (High speed mode)	Output voltage precision(%) (Low lcc mode)	Output current (A)	I/O Voltage Difference (mV)	Circuit current High speed mode (μA)	Circuit current Low lcc mode (μA)	Notes	Package
BHxxPB1WHFV Series	1.7 to 5.5	1.2/1.5/1.8/2.5/2.8/2.9/3.0/3.1/3.3	±25mV/±1	−3.3 to +4.3	0.15	210 Vout=2.5V (Io=100mA)	20	2	OCP/TSD/EN/ DCF	HVSOF5
Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)		Output current (A)	I/O Voltage Difference (mV)	Circuit current (μA)		Notes	Package
BH18SA3WGUT Series	2.2 to 5.5	1.8/2.8/3.0	±25mV/±1		0.15	100 Vout=2.8V (Io=100mA)	40		OCP/TSD/EN	VCSP60N1

快速瞬态响应

Part No.	Input Voltage(V)		Output Voltage (V)	Voltage accuracy (%)	Output current (A)	Over current protection	Soft start	Thermal shut down	UVLO	Package
	Vcc	Vin								
BD35xxHFN Series	4.3 to 5.5	0.95 to Vcc-1 / 1.5 to Vcc-1 / 1.3 to Vcc-1	Adjustable 0.65 to 2.7 / 1.2/1.0	±1	0.5/2.0/1.0/2.0	Recovery / Latch	Adjustable	Recovery / Latch	✓	HSO8
BD3506F	4.3 to 5.5	1.2 to Vcc-1	Adjustable 0.65 to 2.5	±1	2.5	Recovery	Adjustable	Recovery	✓	SOP8
BD3508MUV	4.3 to 5.5	0.75 to Vcc-1	Adjustable 0.65 to 2.7	±1	3.0	Recovery	Adjustable	Recovery	✓	VQFN020V4040
BD3507HFV	4.5 to 5.5	1.2 to Vcc-1	Adjustable 0.65 to 2.7	±1	0.55	Recovery	Adjustable	Recovery	✓	HVSOF6
BD352xxEFV Series	4.3 to 5.5	1.25 to Vcc-1	1.2/1.5	±1	4.0	Latch	Adjustable	Latch	✓	HTSSOP-B20

快速瞬态响应 (带电源良好输出)

BD35xxNUV Series	3.0 to 5.5 / 4.3 to 5.5	0.95 to Vcc-1 / 1.5 to Vcc-1 / 0.7 to Vcc-1	Adjustable 0.65 to 2.7	±1	0.5/1.0 / 3.0/4.0	Recovery	Adjustable	Recovery	✓	VSON010V3030 VQFN020V4040
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快速瞬态响应 (外置FET)

Part No.	Input Voltage(V)		Output Voltage (V)	Voltage accuracy (%)	Output current (A)	Short circuit protection	Soft start	Thermal shut down	UVLO	Package
	Vcc	Vin								
BD35xxFVM Series	4.5 to 5.5	Vcc+(IoMax × Ron)	Adjustable 0.65 to 2.5 / 1.5	±1	Depend on external FET	Latch	Adjustable	Latch	✓	MSOP8

*OCP: 过电流保护功能; TSD: 过热保护功能; EN: 输出/待机控制; DCF: 放电功能

带看门狗计时器的低饱和稳压器

500mA LDO稳压器 + 看门狗计时器复位 (车载等级)

Part No.	Input Voltage (V)	LDO				Voltage detector			Circuit current (μ A)	Operating temperature (°C)	Package
		Output Voltage(V)	Output voltage precision(%)	Output current(A)	I/O Voltage Difference (V)	Detection Voltage(V)	Voltage detector precision(%)	Function			
BD30xxHFP-M Series	5.6 to 36.0	5	± 2 (Ta=-40 to +125°C)	0.5	0.3 (Io=200mA)	4.5 / Variable (at Vs open : 4.1V)	± 2	4.5V Voltage Detector+WDT (Active switch) / Adjustable Voltage Detector+WDT	80	-40 to +125	HRP7

200mA LDO稳压器 + 看门狗计时器复位 (车载等级)

BD3010AFV-M	5.6 to 36.0	5	±2 (Ta=-40 to +125°C)	0.2	0.25 (Io=150mA)	Variable (RADJ open : 4.25V)	±3	Adjustable Voltage Detector+WDT	80	-40 to +125	SSOP-B20
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带电压检测器的低饱和稳压器

500mA LDO稳压器 + 复位 (车载等级)

Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision (%)	Output current (A)	I/O Voltage Difference (V)	Circuit current (μA)	Operating temperature (Tj)	Shutdown Switch	Package
New BD4275-C Series	5.5 to 45.0	5	±2 (Tj=-40 to +150°C)	0.5	0.25(Io=300mA)	65	-40 to +150°C	-	TO252-J5 TO263-5

150mA LDO稳压器 + 复位 (车载等级)

Part No.	Input Voltage (V)	LDO				Voltage detector		Battery Voltage Detector	Circuit current (μA)	Operating temperature (Tj)	Package
		Output Voltage(V)	Output voltage precision(%)	Output current(A)	I/O Voltage Difference (V)	Detection Voltage(V)	Voltage detector precision(%)	Detection Voltage(V)			
New BD4269FJ-C	5.5 to 45.0	5	±2 (Tj=-40 to +150°C)	0.2	0.25 (Io=100mA)	Variable (at not used RADJ : 4.62V)	±2.6	Adjustable	70	-40 to +150°C	SOP-J8

电压跟踪器

500mA 电压跟踪器 (车载等级)

Part No.	Input Voltage (V)	Output current (A)	Offset voltage (mV)	Circuit current (μA)	Operating temperature (°C)	Package
BD3925FP-C	4.5 to 36.0	0.5	±10(Ta=-40 to +125°C, Vcc=6 to 36V, Io=5 to 200mA)	45	-40 to +125	TO252-5
BD3925HFP-C						HRP5

线性稳压器

多路输出 低饱和稳压器(LDO)

关于输入电压，请考虑输出电压值以及输入输出电压差后使用。

2ch LDO稳压器																	
Part No.	Input Voltage (V)	Output Voltage1 (V)	Output Voltage2 (V)	Output Voltage precision (%)	Output current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Input Capacitor (μF)	Notes	Package							
BA30E00WHFP	4.1 to 16.0	3.3	Variable 0.8 to 3.3	±2.0	0.6/0.6	0.7	0.3 (Io=300mA)	1.0	OCP/TSD/EN	HRP7							
BA32xxHFP Series	4.75 to 14.0	3.3/1.5	Variable 0.8 to 3.3/3.3		1.0/1.0	3.0	1.1 (Io=1A)	3.3	OCP/TSD	HRP5							
BA33DxxHFP Series	4.1 to 16.0	1.5/1.8	3.3		0.5/0.5	0.7	0.25 (Io=250mA)	1.0	OCP/TSD	HRP5							
2ch 高效率 CMOS稳压器																	
Part No.	Output Voltage (V)			Output voltage precision (%)	Output current (A)	Output short current (mA)	Notes										
BD70511GWL	LDO1	1.200		1.5	0.15	30	OCP/TSD/EN/DCF										
	LDO2				0.3	65											
2ch 输出可选 CMOS LDO稳压器																	
Part No.	Input Voltage (V)	Vout	Selectable Output Voltage (V)										Output voltage precision(%)	Output current (A)	Vsat (mV) (Io=100mA)	Circuit current (μA)	Notes
		1ch	1.5	1.8	1.8	1.8	1.8	2.6	2.8	2.9	2.8	1.8	0.3	90	55	OCP/TSD/EN/UVLO	
BD700xNUX Series	2.5 to 5.5	2ch	2.8	2.6	2.7	2.8	2.9	2.8	2.8	2.9	3.3	2.0	0.1	—	10	OCP/TSD/EN/UVLO	
		1ch	3.0														
BD7602GUL	2.7 to 5.5	2ch	2.8	2.9	2.95	3.0	3.05	3.1	3.2	3.3	—	0.15	—	10	OCP/TSD/EN/UVLO		
		1ch	3.0														
3ch CMOS LDO稳压器																	
Part No.	Input Voltage (V)	Output Voltage (V)	Output voltage precision	Output current (A)	I/O Voltage Different (mV) (Io=200mA)	ch	Circuit current (μA)	Notes	Package								
BU66xxNUX Series	2.5 to 5.5	2.8/1.8/1.5/3.3	±1% /±25mV	0.2	360/—	1/2/3	120	OCP/TSD/EN/DCF	VSON008X2030								

*OCP: 过电流保护功能、TSD: 过热保护功能、EN: 输出/待机控制、DCF: 放电功能、UVLO: 低电压保护功能

DDR SDRAM用线性稳压器

DDR SDRAM用终端稳压器											
Part No.	Input Voltage (V)	Output Voltage (V)	Voltage accuracy (mV)	V _{TT} Output Current (A)	V _{REF} Output Current (mA)	Soft start	Thermal Protection	Output Ceramic Capacitors	Package		
BD35xxF Series	4.3 to 5.5/ 4.5 to 5.5/ 4.75 to 5.25	0.75 to 1.25/ 0.60 to 1.60	±30	±3.0/ ±1.5/ ±1.8	±20/±10/ —	✓/—	Recovery	—	SOP8		
BD35xxFVM Series	2.7 to 5.5	0.75 to 1.25	±30/±15	±1.0	±20/±25	✓			✓	MSOP8	
BD35xxHFN Series			±30	±1.0	±20					HSOP8	
BD3539NUX			±15	±1.0	±25			VSON008X2030			
BD35390FJ					—			SOP-J8			
DDR SDRAM用终端稳压器 (车载等级)											
BD35395FJ-M	2.5 to 5.5	0.5 to 1.375	±13.5	±1.0	—	✓	Recovery	✓	SOP-J8		

LP-DDR SDRAM用CMOS LDO稳压器										
Part No.	Input Voltage(V)	Output Voltage(V)		Output current(mA)		POK(V)		OCP Max.(mA)		Package
		VLDO1	VLDO2	I out 1 Max.	I out 2 Max.	VPOK1	VPOK2	I OCP 1 Max.	I OCP 2 Max.	
BD8335GWL	2.0 to 5.5	1.226	1.839	10.0	5.0	1.140	1.700	25	12.5	UCSP50L1

开关稳压器

内置FET的开关稳压器

单输出 降压型 V _{IN} : 6V以下													
Part No.	Input Voltage Maximum Rating(V)	Output current (A)	Input Voltage Range (V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Function						Package
							Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	
BD9161FVM-LB	7	0.6	2.5 to 4.5	1.0 to 3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9109FVM-LB	7	0.8	4.5 to 5.5	3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9106FVM-LB	7	0.8	4.0 to 5.5	1.0 to 2.5	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9A101MUV-LB	7	1	2.7 to 5.5	0.8 to (V _{IN} × 0.7)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9A301MUV-LB	7	3	2.7 to 5.5	0.8 to (V _{IN} × 0.7)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
☆BD9B301MUV-LB	7	3	2.7 to 5.5	0.8 to (V _{IN} × 0.8)	1/2	On-time	✓	✓	✓	Deep	Recovery	Recovery	VQFN016V3030
单输出 降压型 V _{IN} : 20V以下													
Part No.	Input Voltage Maximum Rating(V)	Output current (A)	Input Voltage Range(V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Function						Package
							Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	
BD9325FJ-LB	20	2	4.75 to 18	0.9 to (V _{IN} × 0.7)	0.38	Current	—	✓	—	—	Recovery	Recovery	SOP-J8
BD9C301FJ-LB	20	3	4.5 to 18	(V _{IN} × 0.125) to (V _{IN} × 0.7) (V _{IN} × 0.125) ≥ 0.8	0.5	Current	—	—	✓	—	Latch	Recovery	SOP-J8
BD9327EFJ-LB	20	4	4.75 to 18	0.9 to (V _{IN} × 0.7)	0.38	Current	—	✓	—	—	Recovery	Recovery	HTSOP-J8

☆：开发中

内置FET的开关稳压器

关于输入电压，请考虑输出电压值以及输入输出电压差后使用。

单输出 降压型 V_{IN} : 20V以下

	Part No.	Input Voltage Maximum Rating(V)	Output current (A)	Input Voltage Range(V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Function							Package
								Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	Over-Voltage Protection	
	BD9G101G	45	0.5	6.0 to 42	(VIN×0.15) to (VIN×0.7) (VIN×0.15)≥1.0	1.5	Current	—	—	—	—	Recovery	Recovery	—	SSOP6
	BD9E100FJ-LB	40	1	7.0 to 36	(VIN×0.15) to (VIN×0.7) (VIN×0.15)≥1.0	1	Current	—	—	✓	—	Recovery	Recovery	✓	SOP-J8
	BD9E101FJ-LB	40	1	7.0 to 36	(VIN×0.0855) to (VIN×0.7) (VIN×0.0855)≥1.0	0.57	Current	—	—	✓	—	Recovery	Recovery	✓	SOP-J8
	BD9E300EFJ-LB	40	2.5	7.0 to 36	(VIN×0.15) to (VIN×0.7) (VIN×0.15)≥1.0	1	Current	—	—	✓	—	Recovery	Recovery	✓	HTSOP-J8
	BD9E301EFJ-LB	40	2.5	7.0 to 36	(VIN×0.0855) to (VIN×0.7) (VIN×0.0855)≥1.0	0.57	Current	—	—	✓	—	Recovery	Recovery	✓	HTSOP-J8
New	BD9E303EFJ-LB	40	3	7.0 to 36	(VIN×0.06) to (VIN×0.8) (VIN×0.06)≥1.0	0.3	Current	—	—	✓	—	Recovery	Recovery	✓	HTSOP-J8
New	BD9G341AEFJ	80	3	12 to 76	1.0 to (VIN×0.7) *1	0.05 to 0.75	Current	✓	—	—	—	Recovery	Recovery	✓	HTSOP-J8

*1 根据输入输出电压条件，会存在限制。

外置FET的开关稳压器

降压控制器

Part No.	Number of Channels	Input Voltage Maximum Rating(V)	Input Voltage Range(V)	Supply Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Function									Package
								Power Good	Enable	Externally Synchronizable	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	Over-Voltage Protection	
BD95601MUV-LB	1	28	4.5 to 25	4.5 to 5.5	0.75 to 2.0	0.2 to 0.5	H ³ Reg	✓	✓	—	✓	✓	✓	Latch	Recovery	Recovery	VQFN020V4040
BD9611MUV	1	60	10 to 56	—	(V _{IN} × 0.02) to (V _{IN} × 0.97) ⁺¹ (V _{IN} × 0.02) ≥ 0.8	0.05 to 0.5	Voltage	—	✓	✓	✓	✓	—	Recovery	Recovery	—	VQFN020V4040
BD95602MUV-LB	2	30	5.5 to 28	—	1.0 to 5.5	0.15 to 0.5	H ³ Reg	✓	✓	—	✓	✓	✓	Latch	Recovery	Recovery	VQFN032V5050

*1 根据输入输出电压条件，会存在限制。

开关稳压器 (系统电源)

服务器/基站用数字DC/DC电源(ROHM Powervation系列)

单相控制器

Part No.		Phase Count	Supply Voltage (V)	Interfaces			Features										Fault Response				Package (mm)
				SMBus	VR12/12.5 SVID	3-Bit Parallel VID	Auto-Tuning	Programmable f _{sw}	Phase Add/ Drop	DSS*	Sensors & Precision Telemetry	Programmable Load-Line	Single Pin CONFIG™	ADDR	VSET/ VTRACK/ System Good	TSense Supported	OVP/ OCP	SCP/ OTP	LOS	Phase Loss	
New	PV3114	1	0.6 to 5.5	PMBus™ Compliant	—	○	Auto-Control®: Real-Time Adaptive Auto-Tuning	375kHz—1MHz	N/A	—	V _{out} , I _{out} , V _{in} , E _{out} , Temperature, Duty Cycle, f _{sw}	—	—	○	—	Internal Die Sense & External	Restart/ Latching	Restart/ Latching	Retry or Disable	Restart	QFN28 (4 × 4)
New	PV3103		0.6 to 1.52		○	—		375kHz—1MHz	N/A	—		—	○	—	—		Latch	Latch	—	N/A	QFN28 (4 × 4)
New	PV3105		0.6 to 5.5		—	—		375kHz—1.25MHz	N/A	○		○	○	○	○		Restart/ Latching	Restart/ Latching	—	N/A	QFN28 (4 × 4)

双相控制器

New PV3204	2	0.6 to 5.5	PMBus™ Compliant	—	○	Auto-Control®: Real-Time Adaptive Auto-Tuning	375kHz~1MHz	Automatic	—	V _{out} , I _{out} , V _{in} , E _{out} , Temperature, Duty Cycle, f _{sw}	—	—	○	—	Internal Die Sense & External	Restart/ Latching	Restart/ Latching	Retry or Disable	Restart	QFN32 (5×5)
New PV3202		0.6 to 1.52		○	—		375kHz~1MHz	Automatic/ SVID	—		—	○	—	—		Latch	Latch	—	—	QFN32 (5×5)
New PV3207		0.6 to 5.5		—	—		375kHz~1MHz	Automatic	○		—	○	○	○		Restart/ Latching	Latch	Retry	—	QFN32 (5×5)

* Auto-Control®是Powervation的注册商标。 DSS®是Powervation的注册商标。

绝缘/非绝缘型电源

AC/DC转换器IC

AC/DC转换器IC (内置MOSFET的PWM)

Part No.	Supply voltage (V)	MOSFET Resistance	Control method	Switching frequency (kHz)	ON resistance (Ω)	Peak current (A)	Brown out	V _{cc} OVP	Package
BM2P011	8.9 to 26.0	650V	PWM	65	1.4	10.4	✓	Latch	DIP7
BM2P012	8.9 to 26.0	650V	PWM	65	1.4	10.4	✓	Self-restart	DIP7
BM2P013	8.9 to 26.0	650V	PWM	65	1.4	10.4	—	Latch	DIP7
BM2P014	8.9 to 26.0	650V	PWM	65	1.4	10.4	—	Self-restart	DIP7
BM2P031	8.9 to 26.0	650V	PWM	65	2.4	5.2	✓	Latch	DIP7
BM2P032	8.9 to 26.0	650V	PWM	65	2.4	5.2	✓	Self-restart	DIP7
BM2P033	8.9 to 26.0	650V	PWM	65	2.4	5.2	—	Latch	DIP7
BM2P034	8.9 to 26.0	650V	PWM	65	2.4	5.2	—	Self-restart	DIP7
BM2P051/F	8.9 to 26.0	650V	PWM	65	4	2.6	✓	Latch	SOP8/DIP7
BM2P052/F	8.9 to 26.0	650V	PWM	65	4	2.6	✓	Self-restart	SOP8/DIP7
BM2P053/F	8.9 to 26.0	650V	PWM	65	4	2.6	—	Latch	SOP8/DIP7
BM2P054/F	8.9 to 26.0	650V	PWM	65	4	2.6	—	Self-restart	SOP8/DIP7
BM2P091/F	8.9 to 26.0	650V	PWM	65	8.5	1.3	✓	Latch	SOP8/DIP7
BM2P092/F	8.9 to 26.0	650V	PWM	65	8.5	1.3	✓	Self-restart	SOP8/DIP7
BM2P093/F	8.9 to 26.0	650V	PWM	65	8.5	1.3	—	Latch	SOP8/DIP7
BM2P094/F	8.9 to 26.0	650V	PWM	65	8.5	1.3	—	Self-restart	SOP8/DIP7

绝缘/非绝缘型电源

AC/DC 转换器IC

AC/DC转换器IC (外置MOSFET的PWM)									
Part No.	Supply voltage (V)	Control method	START-UP circuit	Switching frequency (kHz)	AC line voltage correction	V _{cc} Recharge	Brown out	V _{cc} OVP	Package
BM1P061FJ	8.9 to 26.0	PWM	✓	65	✓	✓	✓	Self-restart	SOP-J8
BM1P062FJ	8.9 to 26.0	PWM	✓	65	✓	✓	✓	Latch	SOP-J8
BM1P065FJ	8.9 to 26.0	PWM	✓	65	✓	—	✓	Self-restart	SOP-J8
BM1P066FJ	8.9 to 26.0	PWM	✓	65	✓	—	✓	Latch	SOP-J8
BM1P067FJ	8.9 to 26.0	PWM	✓	65	✓	—	—	Self-restart	SOP-J8
BM1P068FJ	8.9 to 26.0	PWM	✓	65	✓	—	—	Latch	SOP-J8
BM1P101FJ	8.9 to 26.0	PWM	✓	100	✓	✓	✓	Self-restart	SOP-J8
BM1P102FJ	8.9 to 26.0	PWM	✓	100	✓	✓	✓	Latch	SOP-J8
BM1P105FJ	8.9 to 26.0	PWM	✓	100	✓	—	✓	Self-restart	SOP-J8
BM1P107FJ	8.9 to 26.0	PWM	✓	100	✓	—	—	Self-restart	SOP-J8

AC/DC转换器IC (外置MOSFET的Quasi-Resonant)									
Part No.	Supply voltage (V)	Control method	START-UP circuit	Maximum frequency (kHz)	AC line voltage correction	FBOLP	Brown out	V _{cc} OVP/ZTOVP	Package
BM1Q001FJ	8.9 to 26.0	QR	✓	120	✓	Self-restart	—	Self-restart	SOP-J8
BM1Q002FJ	8.9 to 26.0	QR	✓	120	✓	Self-restart	—	Latch	SOP-J8

AC/DC转换器IC (SiC-MOSFET驱动用)									
Part No.	Supply voltage (V)	MOSFET	MOSFET Performance	Control method	QR Maximum frequency (kHz)	FBOLP	Brown out	V _{CC} OVP	Package
New BD7682FJ-LB	15.0 to 27.5	External	—	QR	120	Self-restart	✓	Latch	SOP-J8S
New BD7683FJ-LB	15.0 to 27.5	External	—	QR	120	Latch	✓	Latch	SOP-J8S
New BD7684FJ-LB	15.0 to 27.5	External	—	QR	120	Self-restart	✓	Self-restart	SOP-J8S
New BD7685FJ-LB	15.0 to 27.5	External	—	QR	120	Latch	✓	Self-restart	SOP-J8S

绝缘型DC/DC转换器IC

绝缘型DC/DC转换器IC													
Part No.	Output Power (W)	Input Voltage Maximum Rating (V)	Switch Current Limit (A)	Input Voltage Range (V)	Switching Frequency (kHz)	Control Mode	Features						Package
							Enable	Soft Start	Light-Load Efficiency	UVLO	Over-Current Protection	Therma Protection	
New BD7F100HFN-LB	1W at V _{IN} 5.0V	45	1.25	3.0 to 40	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HSON8
New BD7F100EFJ-LB	5W at V _{IN} 24V						✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8
☆BD7F200HFN-LB	2W at V _{IN} 5.0V	45	2.75	3.0 to 40	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HSON8
☆BD7F200EFJ-LB	10W atV _{IN} 24V						✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8
☆BD7J100HFN-LB	5W at V _{IN} 48V	80	1.0	6.0 to 80	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HSON8
☆BD7J100EFJ-LB							✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8

☆：开发中

DC/DC 控制器

DC/DC 控制器								
Part No.	Topology		Primary/Secondary	Supply Voltage (V)	Switching Frequency (kHz)	Frequency Synchronization	I/F	Package
BD8325FVT-M	Active Clamp Forward		Primary IC	9 to 18	50 to 500	✓	—	TSSOP-B30

栅极驱动器

内置绝缘元器件的栅极驱动器

内置绝缘元器件的栅极驱动器 (车载用)										
Part No.	Input-side supply voltage (V)	Output-side positive supply voltage (V)	Output-side negative supply voltage (V)	Isolation voltage (Vrms)	I/O delay time (ns)	Minimum input pulse width (ns)	Maximum output current (A)	Operating temperature range (°C)	Function	Package
BM6101FV-C	4.5 to 5.5	14 to 24	—12 to 0	2,500	350	180	3.0	—40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Thermal protection/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W
BM6102FV-C	4.5 to 5.5	14 to 20	—	2,500	200	100	3.0	—40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Thermal protection/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W
BM6104FV-C	4.5 to 5.5	10 to 24	—12 to 0	2,500	150	90	3.0	—40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W
BM60014FV-C	4.5 to 5.5	10 to 24	—	2,500	120	70	3.0	—40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit	SSOP-B20W

内置绝缘元器件的栅极驱动器 (工业设备用)										
New BM6105FW-LBZ	4.5 to 5.5	13.3 to 20.0	—12 to 0	2,500	95	60	3.0	—40 to +105	Miller Clamp / Fail Output /Ready output / Built-in under voltage lock out circuit / DESAT	SOP16WM
New BM6108FV-LB	4.5 to 5.5	10 to 24	—12 to 0	2,500	150	90	3.0	—40 to +105	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W

内置绝缘元器件的栅极驱动器 (内置反激式电源) (车载用)										
BM60051FV-C	4.5 to 24 4.5 to 5.5	9 to 24	—	2,500	260	180	5.0	—40 to +125	Miller Clamp / Fail Output / Built-in under voltage lock out circuit/Temperature Monitor/Short current protection/Soft turn-off function for short current protection	SSOP-B28W

其他

IGBT/MOSFET高边低边栅极驱动器 (工业设备用)							
Part No.	Input-side supply voltage (V)	High side Floating supply voltage (V)	I/O delay time (ns)	Output current (A)	Number of channel	Operating temperature range (°C)	Package
New BS2103F	10 to 18	600	220	0.06/—0.13	2	—40 to +125	SOP-8

漏电检测IC

漏电检测IC					
Part No.	Supply voltage (V)	Supply current (μ A)	Trip voltage (mV)	Operating temperature range (°C)	Package
BD95820F-LB	12 to 22	330	7.5	-20 to +95	SOP8
BD95820N-LB	12 to 22	330	7.5	-20 to +95	SIP8
New BD95850F-LB	7 to 13	830	7.5	-30 to +95	SOP14

电源管理开关

1ch小型高边开关IC (工业设备用)											
Part No.	Input voltage (V)	ON resistance (m Ω)	Control input logic	Output current (A)	Over current detection (A) Min. / Typ. / Max.	Output turn on time (ms)	OCP	Thermal shut down	Flag output delay/ at over current (ms)	Discharge resistance (Ω)	Package
BD6538G-LB	2.7 to 5.5	150	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2220G-LB	2.7 to 5.5	160	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2221G-LB	2.7 to 5.5	160	L Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	-	SSOP5
BD2224G-LB	2.7 to 5.5	150	H Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	-	SSOP5
BD2225G-LB	2.7 to 5.5	150	L Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	-	SSOP5
BD2226G-LB	2.7 to 5.5	150	H Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	-	SSOP5
BD2227G-LB	2.7 to 5.5	150	L Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	-	SSOP5
1ch高边开关IC (工业设备用)											
BD82001FVJ-LB	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82000FVJ-LB	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82065FVJ-LB	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
BD82061FVJ-LB	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	TSSOP-B8J
2ch高边开关IC (工业设备用)											
New BD2066FJ-LB*	2.7 to 5.5	80	H Active	1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	SOP-J8
New BD2062FJ-LB*	2.7 to 5.5	80	L Active	1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	-	SOP-J8

*UL approved File No. E243261

负载开关IC (工业设备用)											
Part No.	Input voltage (V)	Current consumption (μA)	ON resistance (mΩ)	Number of output channel	Control input logic	Output current (A)	Over current detection (A) Min. / Typ. / Max.	Output turn on time (ms)	Thermal shut down	Discharge resistance (Ω)	Package
 BD2202G-LB	2.7 to 3.6	70	150	1ch	H Active	0.2	0.25/-/1.0	1.2	Recovery	—	SSOP5
 BD2206G-LB	2.7 to 3.6	70	150	1ch	H Active	0.5	0.8/-/1.6	1.2	Recovery	—	SSOP5
高边NMOSFET用控制器IC (工业设备用)											
Part No.	Input voltage (V)	Current consumption (μA)	Output Voltage(V)		Number of output channel	Control input logic	Output turn on time (ms)	Discharge resistance (Ω)	Package		
			Vcc=3.3V	Vcc=5.0V							
BD2270HFV-LB	2.7 to 5.5	50	9.5	13.5	1ch	H Active	0.13	200	HVSOF5		

电池管理

蓄电元件电池平衡IC

EDLC电池平衡IC (4~6单元对应)									
Part No.	Absolute maximum ratings (V)	Cell Voltage Detection Range VCB (V)	over-voltage detection voltage1 (V)	over-voltage detection voltage2 (V)	Shunt SW Ron (Ω)	Function			Package (mm)
						EN	OVLO	Stack IC	
New BD14000EFV-C	+28	2.4 to 3.1V $\pm$ (1%) (0.1V/step usable)	VCB+0.15 or 0.25 (OVLOSEL = L or H)	VCB+0.3 or 0.5 (OVLOSEL = L or H)	1 (Typ.)	✓	✓	✓	HTSSOP-B30 (10.0 $\times$ 7.6) H=1.0 Max.

锂电池监视LSI

(LAPIS Semiconductor 产品)

独立式												
Part No.	Description	Supply Voltage	Cell Voltage Measurement Error (Typ.)	FET Driver for Charge-Discharge Control	Current Consumption (Typ.)		Overcharge and over-discharge voltage detection	Charge and discharge over-current detection	Short detection	Parameter change	Operating Temperature	Package
					Operating	Powerdown						
ML5203	4 to 7-cells supported battery protection LSI integrated NMOS-FET driver	+5 to +42V	±15mV	NMOS	30μA	0.1μA	○	○	—	Mask option	−40 to +85°C	SSOP30
ML5235	5 to 13-cells supported battery protection LSI integrated NMOS-FET driver	+7 to +80V	±15mV	NMOS	25μA	0.1μA	○	○	—	Mask option	−40 to +85°C	SSOP30
ML5233	4 to 10-cells supported battery protection LSI integrated NMOS-FET driver	+5 to +60V	—	NMOS	25μA	0.1μA	○	○	○	Mask option	−40 to +85°C	LQFP32
微控制器控制型												
ML5238	16 cells supported battery monitoring LSI integrated NMOS-FET driver	+7 to +80V	±10mV	NMOS	50μA	0.1μA	—	—	○	External EEPROM or Flash memory	−40 to +85°C	QFP44
ML5236	14 cells supported battery monitoring LSI integrated High side NMOS-FET driver	+8 to +64V	±15mV	High-side NMOS	330μA	0.1μA	Overcharge voltage detection	—	○	External EEPROM or Flash memory	−40 to +85°C	TQFP44
ML5239	16 cells supported battery monitoring LSI with externally cell ballancing	+10 to +72V	±10mV	—	1.2mA	0.1μA	—	—	—	External EEPROM or Flash memory	−40 to +85°C	TQFP64
专用控制器												
Part No.	Description	Supply Voltage		AD Converter	Current Consumption (Typ.)			Package				
		V _{DD}	AV _{DD}		Operating	Suspended (HALT)	Shutdown					
ML610Q486P	nX-U8/100, 32KB Flash, 1KB RAM, Master Clock 500kHz	1.6 to 3.6V	2.2 to 3.6V	12bit, 4ch	400μA	15μA	0.2μA	TQFP48				
ML610Q488P	nX-U8/100, 48KB Flash with ECC, 2KB RAM, Master Clock 1MHz	1.8 to 3.6V	2.2 to 3.6V	10bit, 3ch	175μA	1.4μA	0.2μA	TQFP48				

电压检测器 (复位IC)

标准电压检测器

标准型CMOS电压检测器												
Part No.	Types	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Detection step (V)	Output type	Circuit current(μA)		Hysteresis Voltage (V)	*L*Output current(mA)		Package
							ON	OFF		V _{DD} ≒1.2V	V _{DD} ≒2.4V	
BD48xxG/FVE Series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	Open drain	0.60 (Vs=4.8V)	0.85 (Vs=4.8V)	Vs × 0.05	1	4	SSOP5/VSO5
BD48ExxG Series												SSOP5
BD48KxxG Series												SSOP3 GND 1pin
BD48LxxG Series												SSOP3 GND 3pin
BD49xxG/FVE Series						SSOP5/VSO5						
BD49ExxG Series						SSOP5						
BD49KxxG Series						SSOP3 GND 1pin						
BD49LxxG Series						SSOP3 GND 3pin						

※品名中的xx为检测电压值(2.3V~6.0V的0.1V阶跃)。 例：BD48xxG系列中需要2.3V检测电压值的情况下，品名为BD4823G。

低电压标准型CMOS电压检测器												
Part No.	Types	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Detection step (V)	Output type	Circuit current(μ A)		Hysteresis Voltage (mV)	*L*Output current(mA)		Package
							ON	OFF		$V_{DD}=1.2V$	$V_{DD}=2.4V$	
BU48xxG/FVE/F Series	0.1V step 40 type	± 1	0.9 to 4.8	0.7 to 7.0	0.1	Open drain	0.40 ($V_{DET}=4.8V$)	0.55 ($V_{DET}=4.8V$)	$V_{DET} \times 0.05$	3.3	6.5	SSOP5/VSO5/SOP4
BU49xxG/FVE/F Series						CMOS						SSOP5/VSO5/SOP4

双极型电压检测器											
Part No.	Types	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Detection step (V)	Output type	Circuit current(μA)		Hysteresis Voltage (mV)	*L*Output current (mA)	Package
							ICCL	ICCH			
BD47xxG Series	0.1V step 28 type	±1	1.9 to 4.6	0.85 to 10.0	0.1	Open collector	1.5	1.6	50	15	SSOP5

车载用电压检测器																				
Part No.	Types	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Detection step (V)	Output type	Circuit current(μA)		Hysteresis Voltage (V)	*L*Output current(mA)		RESET Active Timeout Period (ms)	Delay circuit resistance (MΩ)	Package						
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V									
BD48ExxG-M Series	0.1V step 38 type	± 1	2.3 to 6.0	0.95 to 10.0	0.1	Open drain	0.60 (V _S =4.8V)	0.85 (V _S =4.8V)	V _S × 0.05	1.0	4	—	—	SSOP5						
BD49ExxG-M Series						CMOS								SSOP5						
BD52ExxG-M Series						Open drain								Variable	9	SSOP5				
BD53ExxG-M Series						CMOS										SSOP5				
BD45Exx5G-M Series	0.1V step 26 type	± 1	2.3 to 4.8	0.95 to 10.0	0.1	Open drain	0.80 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5	—	50	SSOP5						
BD45Exx1G-M Series													100	SSOP5						
BD45Exx2G-M Series													200	SSOP5						
BD46Exx5G-M Series						CMOS							50	SSOP5						
BD46Exx1G-M Series													100	SSOP5						
BD46Exx2G-M Series													200	SSOP5						

过电压检测用电压检测器														
BD71L4Lx-1 Series	2 type	± 0.8	4.05	1.2 to 7.0	—	Open drain	0.6	0.7	0.03	—	4 ($V_{DD}=4.25V$)	—	—	SSOP5 HVSO5

低电压标准型CMOS电压检测器：※品名中的xx为检测电压值(0.9V~4.8V的0.1V阶跃)。 例：BU48xxG系列中需要2.3V检测电压值的情况下，品名为BU4823G。

双极型电压检测器：※品名中的xx为检测电压值(1.9V~4.6V的0.1V阶跃)。 例：BD47xxG系列中需要2.3V检测电压值的情况下，品名为BD4723G。

车载用电压检测器：※品名中的xx为检测电压值。 例：BD48FxxG-M系列中需要2.3V检测电压值的情况下，品名为BD48E23G-M。

延迟时间可变量 电压检测器

延迟时间自由设置型CMOS电压检测器														
Part No.	Types	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Detection step (V)	Output type	Circuit current(μA)		Hysteresis Voltage (V)	*L*Output current(mA)		RESET Active Timeout Period (ms)	Delay circuit resistance (MΩ)	Package
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V			
BD52xxG/xxFVE Series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	Open drain	0.90 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	Variable	9	SSOP5/VSO5
BD52ExxG Series						SSOP5								
BD53xxG/FVE Series						SSOP5/VSO5								
BD53ExxG Series						SSOP5								
低电压延迟时间自由设置型CMOS电压检测器														
BU42xxG/FVE/F Series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1	Open drain	0.40 (V _{DET} =4.8V)	0.55 (V _{DET} =4.8V)	V _{DET} × 0.05	3.3	6.5	Variable	10	SSOP5/VSO5/SOP4
BU43xxG/FVE/F Series						CMOS								SSOP5/VSO5/SOP4

延迟时间自由设置型CMOS电压检测器：※品名中的xx为检测电压值(2.3V~6.0V的0.1V阶跃)。 例：BD52xxG系列中需要2.3V检测电压值的情况下，品名为BD5223G。

低电压延迟时间自由设置型CMOS电压检测器：※品名中的xx为检测电压值(0.9V~4.8V的0.1V阶跃)。 例：BU42xxG系列中需要2.3V检测电压值的情况下，品名为BU4223G。

其他

延迟时间固定型 电压检测器													
Part No.	Types	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Detection step (V)	Output type	Circuit current(μA)		Hysteresis Voltage (V)	*L*Output current(mA)		RESET Active Timeout Period (ms)	Package
							ON	OFF		V _{OD} =1.2V	V _{OD} =2.4V		
BD45xx5G Series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1	Open drain	0.80 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	50	SSOP5
BD45xx1G Series												100	SSOP5
BD45xx2G Series												200	SSOP5
BU45Kxx2G Series													SSOP3 (GND 1pin)
BU45Lxx2G Series													SSOP3 (GND 3pin)
BU45Kxx4G Series												400	SSOP3 (GND 1pin)
BU45Lxx4G Series							SSOP3 (GND 3pin)						
BD46xx5G Series				0.95 to 10.0		50	SSOP5						
BD46xx1G Series						100	SSOP5						
BD46xx2G Series						200	SSOP5						
BU46Kxx2G Series				SSOP3 (GND 1pin)									
BU46Lxx2G Series				SSOP3 (GND 3pin)									
BU46Kxx4G Series				400		SSOP3 (GND 1pin)							
BU46Lxx4G Series						SSOP3 (GND 3pin)							

看门狗计时器复位IC																			
Part No.	Voltage detection precision (%)	Voltage detection (V)	RESET Active Voltage Range (V)	Output type	Circuit current(μA)	Hysteresis Voltage (V)	*L*Output current(mA)		RESET Active Timeout Period (ms)	Delay circuit resistance (MΩ)	WDT active voltage range (V)	INH mode (Active)	Package						
							V _{OD} =1.2V	V _{OS} =0.5V											
BD37A19FVM	±1.5	1.9	1.0 to 10.0	Open Drain	5	V _{DET} × 0.13	0.7	Variable	10	2.5 to 10.0		H	MSOP8						
BD37A41FVM		4.1				V _{DET} × 0.035							MSOP8						
BD87A28FVM		2.8				V _{DET} × 0.045						L	MSOP8						
BD87A29FVM		2.9				V _{DET} × 0.05							MSOP8						
BD87A34FVM		3.4				V _{DET} × 0.035							MSOP8						
BD87A41FVM		4.1											MSOP8						
BD99A41F		4.1										H	SOP8						

延迟时间固定型电压检测器：※品名中的xx为检测电压值(2.3V~4.8V的0.1V阶跃)。 例：BD45xx5G系列中需要2.3V检测电压值的情况下，品名为BD45235G。

IPD(IPS)

高边/低边开关

高边/低边开关							
Part No.	Supply Voltage (V)	V _{DS} (Max.) (V)	Hi/Lo	CH	I _{oCP} (min) (A)	ON Resistance (mΩ/Typ.)	Package
☆BV1LB028FPJ-C	3.0 to 5.5	42.0	Lo	1	30.0	28	TO252-J3
☆BV1LB045FPJ-C					18.0	45	TO252-J3
☆BV1LB085FJ-C					13.0	85	SOP-J8
☆BV1LB150FJ-C					6.5	150	SOP-J8
☆BV1LB300FJ-C					2.0	300	SOP-J8
BD1LB500EFJ/FVM-C				2	0.8	350	HTSOP-J8/MSOP8
New BM2LB110FJ-C					2.5	120	SOP-J8
New BM2LB150FJ-C					6.5	150	SOP-J8
☆BM2LB300FJ-C				8	2.0	300	SOP-J8
New BD8LA700EFV-C	3.0 to 5.5 (Digital) 4.0 to 5.5 (Analog)	45.0			0.5	700	HTSSOP-B24
BD1HC500EFJ/FVM/HFN-C	4.0 to 18.0	44.5	Hi	1	0.8	500	HTSOP-J8/MSOP-8/HSON-8
BD1HD500EFJ/FVM/HFN-C							HTSOP-J8/MSOP-8/HSON-8

☆：开发中

DC有刷电机驱动器

H桥驱动器 7V耐压 BD621x 系列								
Part No.	CH	Supply Voltage (V)	Output Current (A)	Input Threshold Voltage		Output ON Resistance(Ω Typ.)	Output Modes	Package
				H Level(V)	L Level(V)			
BD6210F/HFP	1	3.0 to 5.5	0.5	2.0 or more	0.8 or less	1.0	Forward/Reverse/Standby(Idle)/Brake	SOP8/HRP7
BD6211F/HFP			1.0					SOP8/HRP7
BD6212FP/HFP			2.0			0.5		HSOP25/HRP7
H桥驱动器 18V耐压 BD622x 系列								
BD6220F	1	6.0 to 15.0	0.5	2.0 or more	0.8 or less	1.5	Forward/Reverse/Standby(Idle)/Brake	SOP8
BD6221F			1.0					SOP8
BD6222FP/HFP			2.0			1.0		HSOP25/HRP7
BD6225FP	2		0.5			1.5		HSOP25
BD6226FP			1.0					HSOP25

DC有刷电机驱动器

H桥驱动器 36V耐压 BD623x 系列								
Part No.	CH	Supply Voltage (V)	Output Current (A)	Input Threshold Voltage		Output ON Resistance(Ω Typ.)	Output Modes	Package
BD6230F	1	6.0 to 32.0	0.5	2.0 or more	0.8 or less	1.5	Forward/Reverse/Standby(Idle)/Brake	SOP8
BD6231F/HFP			1.0			SOP8/HRP7		
BD6232FP/HFP/HFP-LB			2.0			HSOP25/HRP7		
BD6236FP/FM	2		1.0			1.5		HSOP25/HSOP-M28
BD6237FM			2.0			1.0		HSOP-M28
H桥驱动器 60V耐压 (支持车载)								
Part No.	Maximum Voltage (V)	Supply Voltage (V)	Output current (A)	CH	Output ON Resistance (upper + lower)(Ω Typ.)	Output Modes	Operating Temperature Range(°C)	Package
BD16936EFV-M	60	8.0 to 36.0	1	3	2.1	Forward / Reverse / Standby / Brake	－40 to +110	HTSSOP-B28
H桥驱动器 大电流系列								
Part No.	CH	Supply Voltage (V)	Output current (A)	Input Threshold Voltage		Output ON Resistance(Ω Typ.)	Output Modes	Package
				H Level(V)	L Level(V)			
BD62222HFP	1	6.0 to 27.0	2.5	2.0 or more	0.8 or less	1.0	Forward/Reverse/Standby(Idle)/Brake	HRP7
BD62321HFP		6.0 to 32.0	3.0					
H桥驱动器 36V耐压 限流系列								
BD62220EFV	2	8.0 to 28.0	2.0	2.0 or more	0.8 or less	0.65	Forward/Reverse/Standby(Idle)/Brake	HTSSOP-B28
BD62210EFV			1.0			1.9		HTSSOP-B28

步进电机驱动器

高性能、高可靠性36V耐压系列 步进电机驱动器 用于PPC, MFP,工业设备等

※1 BD6387EFV, BD6385EFV, BD6383EFV 和 BD6389FM 功能兼容。 ※2 BD6387EFV, BD6385EFV, BD6383EFV 引脚兼容。
※3 BD63876EFV, BD63874EFV, BD63872EFV 功能兼容。 ※4 BD63876EFV, BD63874EFV, BD63872EFV 引脚兼容。
※5 BD63720AEFV, BD63715AEFV、BD63710AEFV 和 BD63524 功能兼容。 ※6 BD63720AEFV, BD63715AEFV、BD63710AEFV 和 BD63524 引脚兼容。

Part No.	Supply Voltage(V)	Input Method	Output current (A)	Circuit current (mA)	STEP	Input Threshold Voltage		Output ON Resistance (Ω)	Notes	Package
	V _{CC}					High Level Voltage(V)	Low Level Voltage(V)			
BD63730EFV	19 to 28	CLK/PARA	3.0	2.0	1/4	2.0	0.8	0.4	OCP/TSD/UVLO/OVLO	HTSSOP-B54
BD6387EFV	10 to 28	CLK/PARA	2.0	4.5	1/4	2.0	0.8	0.8	OCP/TSD/UVLO/OVLO	HTSSOP-B40
BD6385EFV	10 to 28	CLK/PARA	1.5	4.5	1/4	2.0	0.8	1.0	OCP/TSD/UVLO/OVLO	HTSSOP-B40
BD6383EFV	10 to 28	CLK/PARA	1.0	4.5	1/4	2.0	0.8	1.5	OCP/TSD/UVLO/OVLO	HTSSOP-B40
BD6389FM	10 to 28	CLK/PARA	2.2	4.5	1/4	2.0	0.8	0.7	OCP/TSD/UVLO/OVLO	HSOP-M36
BD63876EFV	19 to 28	PARA	2.0	2.0	1/4	2.0	0.8	0.65	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63874EFV	19 to 28	PARA	1.5	2.0	1/4	2.0	0.8	1.0	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63872EFV	19 to 28	PARA	1.0	2.0	1/4	2.0	0.8	1.9	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63720AEFV	19 to 28	CLK	2.0	2.0	1/4	2.0	0.8	0.65	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63715AEFV	19 to 28	CLK	1.5	2.0	1/4	2.0	0.8	0.95	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63710AEFV	19 to 28	CLK	1.0	2.0	1/4	2.0	0.8	1.2	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63524EFV	19 to 28	CLK	2.5	2.0	1/4	2.0	0.8	0.4	OCP/TSD/UVLO/OVLO	HTSSOP-B28

※CLK/PARA: 控制信号输入CLK-IN型/PARALELL-IN型; OCP: 过电流保护功能; TSD: 过热保护功能; UVLO: 低电压保护功能; OVLO: 过电压保护功能

*CLK/PARA: 控制信号输入CLK-IN型/PARALELL-IN型、OCP: 过电流保护功能、TSD: 过热保护功能、UVLO: 低电压保护功能、OVLO: 过电压保护功能

标准36V耐压系列 步进电机驱动器

※1 BD6395FP, BD6393FP 和 BD6290EFV 功能兼容。 ※2 BD6395FP 和 BD6393FP 引脚兼容。
※3 BD63960EFV, BD63940EFV 和 BD63801EFV 功能兼容。 ※4 BD63960EFV 和 BD63940EFV 引脚兼容。

Part No.	Supply Voltage(V)	Input Method	Output Current (A)	Circuit current (mA)	STEP	Input Threshold Voltage		Output ON Resistance (Ω)	Notes	Package
	Vcc					High Level Voltage(V)	Low Level Voltage(V)			
BD6395FP	16 to 28	PARA	1.5	3.0	1/4	2.0	0.8	1.2	OCP/TSD/UVLO/OVLO	HSOP25
BD6393FP		PARA	1.2	3.0	1/4	2.0	0.8	1.5	OCP/TSD/UVLO/OVLO	HSOP25
BD6290EFV	19 to 28	PARA	0.8	3.0	1/4	2.0	0.8	2.8	OCP/TSD/UVLO/OVLO	HTSSOP-B24
BD63960EFV		PARA	1.5	2.7	1/2	2.0	0.8	1.1	OCP/TSD/UVLO/OVLO	HTSSOP-B24
BD63940EFV		PARA	1.2	2.7	1/2	2.0	0.8	1.4	OCP/TSD/UVLO/OVLO	HTSSOP-B24
BD63801EFV		CLK	0.8	2.7	1/2	2.0	0.8	2.8	OCP/TSD/UVLO/OVLO	HTSSOP-B24

*CLK/PARA: 控制信号输入CLK-IN型/PARALELL-IN型、OCP: 过电流保护功能、TSD: 过热保护功能、UVLO: 低电压保护功能、OVLO: 过电压保护功能

支持μ-step的36V耐压系列 步进电机驱动器

※1 BD63847EFV、BD63843EFV、BD63520EFV 和 BD63510EFV 功能兼容。

Part No.	Supply Voltage(V)	Input Method	Output current (A)	Circuit current (mA)	STEP	Input Threshold Voltage		Output ON Resistance (Ω)	Notes	Package
	Vcc					High Level Voltage(V)	Low Level Voltage(V)			
BD63860EFV	16 to 28	CLK	2.5	4.0	1/8	2.0	0.8	0.8	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63847EFV	19 to 28	CLK	2.0	2.5	1/16	2.0	0.8	0.85	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63843EFV	19 to 28	CLK	1.0	2.5	1/16	2.0	0.8	1.9	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63520EFV	19 to 28	CLK	2.0	2.5	1/16	2.0	0.8	0.85	OCP/TSD/UVLO/OVLO	HTSSOP-B28
BD63510EFV	19 to 28	CLK	1.0	2.5	1/16	2.0	0.8	1.9	OCP/TSD/UVLO/OVLO	HTSSOP-B28

*CLK: 控制信号输入CLK-IN型、OCP: 过电流保护功能、TSD: 过热保护功能、UVLO: 低电压保护功能、OVLO: 过电压保护功能

低电压系列 步进电机驱动器 用于微型和便携式打印机

Part No.	Supply Voltage(V)		Input Method	Output current (A)	Circuit current (mA)	STEP	Input Threshold Voltage		Output ON Resistance (Ω)	Package
	Vcc	V _M					High Level Voltage(V)	Low Level Voltage(V)		
BD6776FV-LB	—	1.4 to 4.0	PARA	0.5	0	1/2	0.8	—	0.68	SSOP-B16

*PARA: 控制信号输入PARALELL-IN型

风扇电机驱动器

高性能单相全波风扇电机驱动器

Part No.	Supply Voltage (V)	I _{omax.} (mA)	Power Tr.	Speed Control	Hall Bias Voltage (V)	Lock Time Ratio	Notes	Package
BD6973FV-LB	4.3 to 17.0	10	Pre-driver	DC/Direct PWM	1.26	1 : 20	TSD	SSOP-B16
BD6974FV-LB							TSD/ALARM	SSOP-B16

*TSD: 过热保护功能、ALARM: 锁定警报

三相无刷电机驱动器

三相无刷电机预驱动器 (支持车载)

Part No.	Max. Voltage (V)	Supply Voltage (V)	Operating Temperature (°C)	Circuit Current (mA)	Input Threshold Voltage		External FET Drive Voltage		PWM Frequency (kHz)	Notes	Package
					H Level(V)	L Level(V)	Upper(V)	Lower(V)			
BD16805FV-M	60	8 to 18	−40 to +110	15.2	3.0	1.0	2×V _{cc} −0.5	11.5	25	TSD/OCPI/OVP/UVP/Built-in motor lock protection circuit	SSOP-B40

*TSD: 过热保护功能、OCPI: 过电流保护功能、OVP: 过电压保护功能、UVP: 低电压保护功能

LED驱动器

升压LED驱动器

外置FET 白色LED驱动器									
Part No.	Input voltage (V)	No. of LEDs	Output Voltage (V)	Output current (mA)	Switching Frequency (MHz)	Primary Brightness Control Method		Control interface	Package
BD9486F	9.0 to 18.0	120 Max. (120 LEDs×1 row)	400 Max.	400 Max.	0.05 to 0.8	PWM signal Analog signal		Pin logic setting	SOP16
New BD9483F/FV	11.0 to 35.0	120 Max. (120 LEDs×2 rows)							SOP24/SSOP-B24
BD9397EFV	9.0 to 35.0	84 Max. (14 LEDs×6 rows)	50.0 Max.	400 Max.	0.1 to 1.25				HTSSOP-B40
BD9479FV		96 Max. (12 LEDs×8 rows)	43.0 Max.	500 Max.	0.1 to 0.8				SSOP-B40
BD93941EFV/EPF		56 Max. (14 LEDs×4 rows)	40 Max.	200 Max.	0.15				HTSSOP-B20/ HSOP20
BD9422EFV		84 Max. (14 LEDs×6 rows)	50.0 Max.	400 Max.	0.1 to 1.25				HTSSOP-B40
BD9420F				500 Max.	0.1 to 0.8				SOP28

TFT液晶显示用驱动器系列

中小型LCD驱动器

(LAPIS Semiconductor产品)

TFT-LCD驱动器									
Part No.	Type	Logic Supply Voltage (V)	LCD Voltage (V)	Number of Driver Outputs		I/F	Operating Temperature (°C)	for Automotive	Package
ML9860B	Source	2.1 to 3.6	10.0 to 14.6	480		RSDS	- 40 to + 95	Yes	Au bump chip
ML9863A		2.4 to 3.6	8.0 to 14.6	960/804/792/768		CMOS/RSDS			Au bump chip
ML9881		1440/1284/1278/1260/1200/1080/1026/1020		RSDS/mini-LVDS	Au bump chip				
ML9872	Gate	2.7 to 3.6	Less than 40	540/480/400/384/360/300/240		CMOS			Au bump chip

TN/STN液晶显示用驱动器系列

LCD用 通用/段码驱动器

低Duty LCD段码驱动器																
Part No.	Display (dots)	Outputs		Operating Voltage (V)		Operating Temperature (°C)	Duty	Bias	Interface	EVR	GPO	Independent blink	LED Dr	PWM Gen.	Keyscan	Package
		SEG	COM	IF PowerSupply (VDD)	LCD PowerSupply (VLCD)											
BU9796AMUV	48	12	4	2.5 to 5.5	—	−40 to +85	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	VQFN024V4040
BU9796AFS	80	20	4	2.5 to 5.5	—	−40 to +85	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	SSOP-A32
BU9795AGUW	124	31	4	2.5 to 5.5	—	−40 to +85	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	VBGA048W040
BU9795AKV	140	35	4	2.5 to 5.5	—	−40 to +85	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	VQFP48C
BU9795AKS2	140	35	4	2.5 to 5.5	—	−40 to +85	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	SQFP-T52
BU9797FUV	144	36	4	2.5 to 5.5	—	−40 to +85	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	TSSOP-C48V
BU9794AKV	200	50	4	2.5 to 5.5	2.5 to 5.5	−40 to +85	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	VQFP64
BU9799KV	200	50	4	2.5 to 5.5	2.5 to 5.5	−40 to +85	1/4	1/2, 1/3	2wire serial	○	—	—	—	—	—	VQFP64
BU97950FUV	280	35	8	2.5 to 5.5	2.5 to 5.5	−40 to +85	1/8	1/4	2wire serial	○	—	—	—	—	—	TSSOP-C48V

TN/STN液晶显示用驱动器系列

LCD用 通用/段码驱动器

低Duty LCD段码驱动器																
Part No.	Display (dots)	Outputs		Operating Voltage (V)		Operating Temperature (°C)	Duty	Bias	Interface	EVR	GPO	Independent blink	LED Dr	PWM Gen.	Keyscan	Package
		SEG	COM	IF Power Supply (VDD)	LCD Power Supply (VLC)											
BU97930MUV	108	27	4	1.8 to 3.6	2.7 to 5.5	-40 to +85	1/4, 1/3 Static	1/3 Static	3wire serial	—	4port	○	1port	1ch 8bit	—	VQFN040V6060
BU97981MUV	168	42	4	1.8 to 3.6	3.3 to 5.5	-30 to +75	1/4, 1/3 Static	1/3 Static	3wire serial	—	27port	○	3port	2ch 12bit	—	VQFN56AV8080
BU97981KV	196	49	4	1.8 to 3.6	3.3 to 5.5	-30 to +75	1/4, 1/3 Static	1/3 Static	3wire serial	—	31port	○	3port	2ch 12bit	—	VQFP64
New BU97981GU	196	49	4	1.8 to 3.6	3.3 to 5.5	-30 to +75	1/4, 1/3 Static	1/3 Static	3wire serial	—	31port	○	3port	2ch 12bit	—	VBGA064T050A
New BU97501KV	204	51	4	2.7 to 6.0	4.5 to 6.0	-40 to +85	1/4, 1/3	1/2, 1/3	4wire serial	—	4port	—	—	—	5×6 Max. 30Key	VQFP64
BU97530KVT	445	89	5	2.7 to 6.0		-40 to +85	1/5, 1/4, 1/3 Static	1/2, 1/3 Static	4wire serial	○	9port (9ch PWM)	—	—	9ch 8bit	5×6 Max. 30Key	TQFP100V
车载用低Duty LCD段码驱动器																
Part No.	Display (dots)	Outputs		Operating Voltage (V)		Operating Temperature (°C)	Duty	Bias	Interface	EVR	GPO	Independent blink	LED Dr	PWM Gen.	Keyscan	Package
		SEG	COM	IF Power Supply (VDD)	LCD Power Supply (VLC)											
New BU9797FUV-M	144	36	4	2.5 to 5.5		-40 to +85	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	TSSOP-C48V
BU97510CKV-M	216	54	4	2.7 to 6.0		-40 to +85	1/4, 1/3	1/2, 1/3	3wire serial	—	6port (6ch PWM)	—	—	6ch 6bit	—	VQFP64
BU97520AKV-M	276	69	4	2.7 to 6.0		-40 to +85	1/4, 1/3	1/2, 1/3	4wire serial	—	6port (6ch PWM)	—	—	6ch 8bit	5×6 Max. 30Key	VQFP80
BU97530KVT-M	445	89	5	2.7 to 6.0		-40 to +85	1/5, 1/4, 1/3 Static	1/2, 1/3 Static	4wire serial	○	9port (9ch PWM)	—	—	9ch 8bit	5×6 Max. 30Key	TQFP100V
New BU97540KV-M	335	67	5	2.7 to 6.0		-40 to +85	1/5, 1/4, 1/3 Static	1/2, 1/3, 1/4 Static	4wire serial	○	9port (9ch PWM)	—	—	9ch 9bit	5×6 Max. 30Key	VQFP80
New BU97550KV-M	528	66	8	2.7 to 6.0		-40 to +85	1/8, 1/7, 1/5 1/4, 1/3 Static	1/2, 1/3, 1/4 Static	4wire serial	○	9port (9ch PWM)	—	—	9ch 9bit	5×6 Max. 30Key	VQFP80
New BU97600FV-M	116	29	4	2.7 to 6.0		-40 to +105	1/4, 1/3, 1/2 Static	1/2, 1/3 Static	4wire serial	○	16port (16ch PWM)	—	—	6ch 9bit	4×5 Max. 20Key	SSOP-B40
New BU97600FUV-M	148	37	4	2.7 to 6.0		-40 to +105	1/4, 1/3, 1/2 Static	1/2, 1/3 Static	4wire serial	○	16port (16ch PWM)	—	—	6ch 9bit	4×5 Max. 20Key	TSSOP-C48V
New BU91501KV-M	204	51	4	2.7 to 6.0	4.5 to 6.0	-40 to +105	1/4, 1/3	1/2, 1/3	4wire serial	—	4port	—	—	—	5×6 Max. 30Key	VQFP64
New BU91510KV-M	216	54	4	2.7 to 6.0		-40 to +105	1/4, 1/3	1/2, 1/3	3wire serial	—	6port (6ch PWM)	—	—	6ch 6bit	—	VQFP64
New BU91530KVT-M	445	89	5	2.7 to 6.0		-40 to +105	1/5, 1/4, 1/3 Static	1/2, 1/3 Static	4wire serial	○	9port (9ch PWM)	—	—	9ch 8bit	5×6 Max. 30Key	TQFP100V
工业设备用低Duty LCD段码驱动器																
Part No.	Display (dots)	Outputs		Operating Voltage (V)		Operating Temperature (°C)	Duty	Bias	Interface	EVR	GPO	Independent blink	LED Dr	PWM Gen.	Keyscan	Package
		SEG	COM	IF Power Supply (VDD)	LCD Power Supply (VLC)											
BU97941FV-LB	104	26	4	1.8 to 3.6	2.7 to 5.5	-40 to +85	1/4, 1/3 Static	1/3 Static	3wire serial	—	—	—	4port	—	—	SSOP-B40
BU9795AFV-LB	108	27	4	2.5 to 5.5		-40 to +85	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	SSOP-B40
BU97931FV-LB	112	28	4	1.8 to 3.6	2.7 to 5.5	-40 to +85	1/4, 1/3 Static	1/3 Static	3wire serial	—	5port	○	1port	1ch 8bit	—	SSOP-B40

矩阵LCD用 通用/段码 驱动器

(LAPIS Semiconductor产品)

LCD驱动器								
Part No.	No. of driver outputs	Max. Driving Display size	Logic Supply Voltage(V)	Driver Supply Voltage (V)	Operating Temperature (°C)	Feature	for Automotive	Package
ML9460	240	320×240 (QVGA)	2.5 to 5.5	Less than 43	-30 to +75	Output change 240/200/160/120	—	Au bump chip
ML9461B	320		2.5 to 5.5	2.6 to 5.5	-30 to +75	Output change 320/240/200	—	Au bump chip

图形LCD用 控制器驱动器

(LAPIS Semiconductor产品)

LCD控制器驱动器								
Part No.	No. of segment outputs	Max. Driving Display size	Logic Supply Voltage(V)	Driver Supply Voltage (V)	Operating Temperature (°C)	Feature	for Automotive	Package
ML9058E	132	132×65 dot	3.7 to 5.5	6 to 18	-40 to +85	Integrated RAM/Boost circuit	Yes	Au bump chip
ML9059E	132	132×49 dot	3.7 to 5.5	6 to 18	-40 to +85	Integrated RAM/Boost circuit	Yes	Au bump chip
ML9445	180	180×65 dot	2.7 to 5.5	6 to 18.5	-40 to +105	Integrated RAM/Boost circuit	Yes	Au bump chip
ML9092-01	56	56×10 dot	4.5 to 5.5	4.5 to 16.5	-40 to +85	Integrated RAM/Boost circuit/PWM	Yes	TQFP100
ML9092-02	60	60×10 dot	4.5 to 5.5	4.5 to 16.5	-40 to +85	Integrated RAM/Boost circuit	Yes	TQFP100
ML9092-03						Integrated RAM		
ML9092-04						Integrated RAM/PWM		

字符LCD用 控制器驱动器

(LAPIS Semiconductor产品)

LCD控制器驱动器								
Part No.	Max. No. of Segment Outputs	Digits/Lines	Logic Supply Voltage (V)	Driver Supply Voltage (V)	Operating Temperature (°C)	Feature	for Automotive	Package
ML9042-0x	100	5×8 dots, 20 characters×2 lines	2.7 to 5.5	2.7 to 5.5	-40 to +85	Built-in bias register 2kΩ / Supports custom fonts	—	Au bump chip
ML9042-1x	100	5×8 dots, 20 characters×2 lines	2.7 to 5.5	2.7 to 5.5	-40 to +85	Built-in bias register 4kΩ / Supports custom fonts	—	Au bump chip
ML9042-2x	100	5×8 dots, 20 characters×2 lines	2.7 to 5.5	2.7 to 5.5	-40 to +85	Built-in bias register 10kΩ / Supports custom fonts	—	Au bump chip

低Duty LCD用 控制器驱动器

(LAPIS Semiconductor产品)

LCD控制器驱动器(封装品)													
Part No.	Max. No. of Segment Outputs	Max. No. of Driving Segments					Internal Oscillation Frame Frequency (Hz)	Logic Supply Voltage (V)	Driver Supply Voltage (V)	Operating Temperature (℃)	Feature	for Auto-motive	Package
		static	1/2	1/3	1/4	1/5							
ML9470-12	80	80	160	—	—	—	—	3.0 to 5.5 (single)		-40 to +105	Supports external clock input	Yes	QFP100
ML9471	80	—	—	240	320	400	—					Yes	TQFP100
ML9472	60	60	120	—	—	—	—					Yes	P-TQFP80-1212-0.50
ML9473	60	—	—	180	240	300	—					Yes	P-TQFP80-1212-0.50
ML9475	40	—	—	120	160	—	—	3V±10%/5V±10%	3.5 to 5.5		Supports external clock input/ Bias generator built in/ EMS countermeasure built in	Yes	QFP56
ML9476	16	—	—	48	64	—	—					Yes	TQFP48
ML9477	32	—	—	96	128	—	—					Yes	TQFP48
ML9484	50	50	100	150	200	—	—	2.7 to 5.5	4.5 to 5.5		Supports external clock input/ Bias generator built in	Yes	TQFP64
LCD控制器驱动器(金凸点品)													
Part No.	Max. No. of Segment Outputs	Max. No. of Driving Segments					Internal Oscillation Frame Frequency (Hz)	Logic Supply Voltage (V)	Driver Supply Voltage (V)	Operating Temperature (℃)	Feature	for Auto-motive	Package
		static	1/2	1/3	1/4	1/5							
ML9480	40	40	80	120	160	—	65/75/85/95/ 130/150/170/190 command switching	2.7 to 5.5	4.5 to 5.5	-40 to +105	Supports external clock input/ Bias generator built in/ EMS countermeasure built in/ No external parts	Yes	Au bump chip
ML9478C	80	80	160	240	320	—	65/75/85/95 command switching					Yes	Au bump chip
ML9479E	160	160	320	480	640	—	—					Yes	Au bump chip
ML9488	80	80	160	240	320	—	130/150/170/190 command switching				Supports external clock input/ Bias generator built in	Yes	Au bump chip
ML9489	160	160	320	480	640	—	—					Yes	Au bump chip

电容式开关控制器

电容式开关控制器IC											
Part No.	Supply voltage (V)	Cap switch	LED_Driver	LED_PWM control	Matrix control	Interface	MCU	Program memory	Intermittent motion	Package	
BU21079F	3.0 to 5.5	8ch	—	—	4 × 4	I ² C	32 bit	ROM	○	SOP16	

触摸屏控制器

电阻式									
Part No.	Supply voltage (V)	MCU	Resolution	Touch detection	Stand-by current (μA)	Active current (mA)	Host I/F	Operating Temperature Range (°C)	Package
BU21029MUV	1.65 to 3.6	—	4096 × 4096	2 point/Single	100	0.8	I ² C	-20 to +85	VQFN020V4040
BU21024FV-M	2.7 to 3.6	8bit	1024 × 1024	2 point/Single	60	4.0	I ² C/SPI	-40 to +85	SSOP-B28
BU21023MUV	2.7 to 3.6	8bit	1024 × 1024	2 point/Single	60	4.0	I ² C/SPI	-20 to +85	VQFN028V5050

近距离无线通信用LSI

特定小功率无线 (Sub-GHz频段无线)

(LAPIS Semiconductor产品)

数据发信专用LSI											
Part No.	Support Standard	Frequency Band	Supply Voltage (V)	Modulation Method	FEC Mode	Control I/F	Transmission Rate	Transmission Output (dBm)	Reception Sensitivity	Operating Temperature (°C)	Package
ML7386	—	200 to 972MHz	1.8 to 3.6	2-FSK 2-MSK	—	Synchronous serial (Control) DI(DATA)	to 100kbps	10mW	—	-25 to +85	WQFN28
ML7386B								1mW/10mW			
数据收发信LSI											
ML7066	ARIB STD-T67, RCR STD-30	426MHz band 429MHz band	2.1 to 3.6	2-FSK	—	Synchronous serial (Control) DI(DATA)	1.2kbps, 2.4kbps 4.8kbps [NRZ] (3-step setting function)	1mW/10mW	-116dBm [BER<1%]*	-25 to +65	VQFN48
ML7396B	ARIB STD-T108	750 to 960MHz	1.8 to 3.6	2- (G)FSK (G)MSK	IEEE 802.15.4g compliant	Synchronous serial (Control · DATA) DIO(DATA)	to 50kbps 100kbps 150kbps 200kbps 400kbps	1mW/ 10mW/ 20mW	-106dBm [100kbps BER=0.1%]*	-40 to +85	WQFN40
ML7396A	FCC part15.247/249										
ML7396E	EN300-220										
ML7344J	ARIB STD-T67, RCR STD-30	160 to 510MHz	1.8 to 3.6	2- (G)FSK (G)MSK	—	Synchronous serial (Control) DI(DATA)	to 15kbps	1mW/ 10mW/ 20mW	-117dBm [4.8kbps BER=0.1%]*	-40 to +85	WQFN32
ML7344C	Q/GDW347.3		3.3 to 3.6 (100mW)					20mW/ 100mW			
ML7406	EN300-220 EN13757-4	750 to 960MHz	1.8 to 3.6	2- (G)FSK (G)MSK	—	Synchronous serial (Control) DI(DATA)	to 500kbps	1mW/ 10mW/ 20mW	-106dBm [100kbps BER=0.1%]*	-40 to +85	WQFN32
☆ML7345	EN300-220 EN13757-4 ARIB STD-T67 RCR STD-30	160 to 960MHz	1.8 to 3.6	2- (G)FSK (G)MSK 4- (G)FSK	—	Synchronous serial (Control) DI(DATA)	to 100kbps	1mW/ 10mW/ 20mW	-123dBm [2.4kbps BER=1%]*	-40 to +85	WQFN32
☆ML7345C	Q/GDW347.3	470 to 510MHz	3.3 to 3.6 (100mW)	2- (G)FSK (G)MSK 4- (G)FSK	—	Synchronous serial (Control) DI(DATA)	to 100kbps	20mW/ 100mW	-123dBm [2.4kbps BER=1%]*	-40 to +85	WQFN32

*BER是Bit Error Rate的缩写。

☆: 开发中

近距离无线通信用LSI

MCU搭载特定小功率无线(Sub-GHz频段无线) 系统LSI

(LAPIS Semiconductor产品)

数据收发信LSI											
Part No.	Support Standard	Frequency Band	Supply Voltage (V)	Modulation Method	CPU core	Memory resources	Transmission Rate	Transmission Output (dBm)	Reception Sensitivity	Operating Temperature (°C)	Package
☆ML7416N	ARIB STD-T108	750 to 960MHz	1.8 to 3.6	2-(G)FSK (G)MSK	CorTex-M0+	FLASH512KB, RAM64KB	to 50kbps 100kbps 150kbps 200kbps 400kbps	1mW/ 10mW/ 20mW	-106dBm [100kbps BER=0.1%]*	-40 to +85	BGA81

*: BER是Bit Error Rate的缩写。

☆: 开发中

音频放大器

扬声器放大器

中/高输出功率放大器 支持数字输入的D类扬声器放大器										
Part No.	Supply voltage (V)	Power dissipation (W)	Quiescent current (mA)	Output power (W)		Distortion (%)	Output noise voltage (μVrms)	Power limiter function	Package	
BD5446EFV	10 to 26	6.2 (4-layer board) 4.5 (2-layer board)	45 (Vcc=13V)	10 (Vcc=13V RL=8Ω)	20 (Vcc=18V RL=8Ω)	0.07	140	✓ (Power Limitter)	HTSSOP-B54	
BD5451EFV	10 to 18	4.7 (4-layer board) 3.3 (2-layer board)	50 (Vcc=12V)	10 (Vcc=12V RL=8Ω)	15 (Vcc=15V RL=8Ω)	0.07	100	—	HTSSOP-B28	
BD5452AMUV	10 to 18	4.56 (4-layer board) 3.26 (2-layer board)	50 (Vcc=12V)	—	15 (Vcc=18V RL=8Ω)	0.08	100	✓ (GAIN)	VQFN032V5050	
BD28620MUV	8.5 to 24	3.56 (4-layer board) 2.21 (2-layer board)	40 (Vcc=18V)	—	15 (Vcc=16V RL=8Ω)	0.08	150	✓ (GAIN)	VQFN024V4040	
中/高功率放大器 支持模拟输入/BTL输出的D类扬声器放大										
Part No.	Supply voltage (V)	Power dissipation (W)	Quiescent current (mA)	Voltage Gain (dB)	Output power (W)		Distortion (%)	Output noise voltage (μVrms)	Power limiter function	Package
BD5424EFS	10 to 18	4.5 (4-layer board) 2.0 (2-layer board)	30 (Vcc=12V)	28	10 (Vcc=12V RL=8Ω)	20 (Vcc=17V RL=8Ω)	0.1	80	✓ (Power Limitter)	HTSSOP-A44
BD5423AEFS	10 to 16.5	4.5 (4-layer board) 2.0 (2-layer board)	25 (Vcc=12V)	28	10 (Vcc=12V RL=8Ω)	17 (Vcc=12V RL=4Ω)	0.1	80	✓ (Power Limitter)	HTSSOP-A44
BD5423MUV	10 to 16.5	4.8 (4-layer board) 3.28 (2-layer board)	25 (Vcc=12V)	28	10 (Vcc=12V RL=8Ω)	17 (Vcc=12V RL=4Ω)	0.1	80	✓ (Power Limitter)	VQFN048V7070
BD5426EFS	10 to 16.5	4.5 (4-layer board) 2.0 (2-layer board)	25 (Vcc=12V)	28	9 (Vcc=12V RL=8Ω)	10 (Vcc=13V RL=8Ω)	0.1	80	✓ (Power Limitter)	HTSSOP-A44
BD5426MUV	10 to 16.5	4.8 (4-layer board) 3.28 (2-layer board)	25 (Vcc=12V)	28	9 (Vcc=12V RL=8Ω)	10 (Vcc=13V RL=8Ω)	0.1	80	✓ (Power Limitter)	VQFN048V7070
BD5413EFV	6 to 10.5	2.8 (4-layer board) 1.1 (2-layer board)	12 (Vcc=9V)	30	4 (Vcc=9V RL=8Ω)	5 (Vcc=9V RL=6Ω)	0.2	90	—	HTSSOP-B24
中/高功率放大器 5W+5W立体声扬声器放大器										
Part No.	Supply voltage (V)	Power dissipation (W)	Quiescent current (mA)	Standby current (μA)	Output power (W) [Vcc=12V, RL=3Ω]	Closed loop voltage gain (dB)	Output noise voltage (mVrms)	Distortion (%)	Ripple rejection (dB)	Package
BA5406	5 to 15	20	40	—	5	46	0.6	0.3	—	SIP-M12
BA5417	6 to 15	15	22	0	5	45	0.3	0.1	55	HSIP15

耳机放大器

超小无需耦合电容器的耳机放大器									
Part No.	Supply voltage (V)	Quiescent Current (mA)	Gain (V/V)	Maximum output power (mW)	Distortion (%)	Output noise voltage (μVrms)	Ripple rejection (dB)	Notes	Package (mm)
BD88200GUL	2.4 to 5.5	2.0	Variable Gain with external resistor	80 (V _{DD} =3.3V, R _L =16Ω)	0.006 (V _{DD} =3.3V, R _L =16Ω)	10	-80 (f=217Hz)	Virtual ground based	VCSP50L2 (2.1×2.1)
BD88210GUL			-1.0						VCSP50L2 (2.1×2.1)
BD88215GUL			-1.5						VCSP50L2 (2.1×2.1)
BD88220GUL			-2.0						VCSP50L2 (2.1×2.1)
BD88400GUL			Variable Gain with external resistor					Ground based	VCSP50L2 (2.1×2.1)
BD88400FJ									SOP-J14
BD88410GUL			-1.0						VCSP50L2 (2.1×2.1)
BD88415GUL			-1.5						VCSP50L2 (2.1×2.1)
BD88420GUL			-2.0						VCSP50L2 (2.1×2.1)
为0.93V低电压工作设计的耳机放大器									
Part No.	Supply voltage (V)	Quiescent Current(mA)	Maximum output power(mW)		Distortion(%)		Output noise voltage (μVrms)	Package	
			Single-ended (16Ω)	BTL (8Ω)	Single-ended (16Ω)	BTL (8Ω)			
BU7150NUV	0.93 to 3.5 (Ta=0°C or more)	1.0	14 (V _{DD} =1.5V)	85 (V _{DD} =1.5V)	0.1 (P _o =5mW)	0.2 (P _o =25mW)	10	VSON010V3030	

耳机放大器

标准耳机放大器							
Part No.	Supply voltage (V)	Quiescent Current (mA)	Voltage gain (dB)	Maximum Output power (mW) RL=16Ω	Distortion (%)	Ripple rejection (dB)	Package
BH3544F	2.8 to 6.5	7.0	6	62	0.02	57	SOP8
BH3547F	4.5 to 6.5	3.7	6	77	0.05	57	SOP8
BH3548F	4.0 to 5.5	6.5	6	62 [120@RL=8Ω]	0.02	57	SOP8

媒体解码器

AAC / WMA / MP3格式 / WAV + SD存储卡															
Part No.	Supply voltage(V)	USB	SD	iPod	Serial interface	Display information	MP3	WMA	AAC	CD-ROM Mode	CD-ROM File System	MP3 Recording Format	Audio output Analog Digital		Package
BU94501AMUV	3.0 to 3.6	USB2.0 Full Speed	MMC SD miniSD microSD SDHC	—	I ² C BUS	Folder number, File number, Play time, Folder name, File name, TAG(Artist, Album, Title)	MPEG1,2,2.5 LAYER1,2,3	WMA9 Standard	MPEG4 AAC-LC	—	—	—	Line	I ² S SPDIF	VQFN40
BU94501AKS2															SQFP-T52
AAC / WMA / MP3格式 / WAV + SD存储卡 + iPod															
BU94502AMUV	3.0 to 3.6	USB2.0 Full Speed	MMC SD miniSD microSD SDHC	iPod5G-iPod nano-iPod Classic-iPod touch-iPhone-iPad	I ² C BUS	Folder number, File number, Play time, Folder name, File name, TAG(Artist, Album, Title)	MPEG1,2,2.5 LAYER1,2,3	WMA9 Standard	MPEG4 AAC-LC	—	—	—	Line	I ² S SPDIF	VQFN40
BU94502AKS2															SQFP-T52
AAC / WMA / MP3格式 / WAV + SD存储卡 + CD-ROM															
BU94605AKV	3.0 to 3.6	USB2.0 Full Speed	MMC SD miniSD microSD SDHC	—	I ² C BUS	Folder number, File number, Play time, Folder name, File name, TAG(Artist, Album, Title)	MPEG1,2,2.5 LAYER1,2,3	WMA9 Standard	MPEG4 AAC-LC	Mode1, Mode2, form1/2, Romeo, Joliet	ISO9660 Level1,2	—	Line	I ² S SPDIF	VQFP80
AAC / WMA / MP3格式 / WAV + SD存储卡 + iPod + CD-ROM															
BU94607AKV	3.0 to 3.6	USB2.0 Full Speed	MMC SD miniSD microSD SDHC	iPod5G-iPod nano-iPod Classic-iPod touch-iPhone-iPad	I ² C BUS	Folder number, File number, Play time, Folder name, File name, TAG(Artist, Album, Title)	MPEG1,2,2.5 LAYER1,2,3	WMA9 Standard	MPEG4 AAC-LC	Mode1, Mode2, form1/2, Romeo, Joliet	ISO9660 Level1,2	—	Line	I ² S SPDIF	VQFP80
AAC / WMA / MP3格式 / WAV + SD存储卡 + CD-ROM + MP3录音															
BU94702AKV	3.0 to 3.6	USB2.0 Full Speed	MMC SD miniSD microSD SDHC	—	I ² C BUS	Folder number, File number, Play time, Folder name, File name, TAG(Artist, Album, Title)	MPEG1,2,2.5 LAYER1,2,3	WMA9 Standard	MPEG4 AAC-LC	Mode1, Mode2, form1/2, Romeo, Joliet	ISO9660 Level1,2	MPEG1 Layer3 Sample Rate : 32,44,1,48kHz Bit Rate : 32,64,128, 192,256,320kHz	Line	I ² S SPDIF	VQFP80
AAC / WMA / MP3格式 / WAV + SD存储卡 + iPod + CD-ROM + MP3录音															
BU94705AKV	3.0 to 3.6	USB2.0 Full Speed	MMC SD miniSD microSD SDHC	iPod5G-iPod nano-iPod Classic-iPod touch-iPhone-iPad	I ² C BUS	Folder number, File number, Play time, Folder name, File name, TAG(Artist, Album, Title)	MPEG1,2,2.5 LAYER1,2,3	WMA9 Standard	MPEG4 AAC-LC	Mode1, Mode2, form1/2, Romeo, Joliet	ISO9660 Level1,2	MPEG1 Layer3 Sample Rate : 32,44,1,48kHz Bit Rate : 32,64,128, 192,256,320kHz	Line	I ² S SPDIF	VQFP80

媒体解码器: BU94604BKV, BU94502AMUV, BU94502AKS2, BU94607AKV, BU94705AKV以取得Made for iPod/iPhone/iPad许可为前提条件。
iPod和iPhone是在美国以及其他各国注册的苹果公司的商标。iPad是苹果公司的商标。

内置Flash/Mask ROM 语音合成LSI

(LAPIS Semiconductor产品)

时钟同步串行接口型式 内置Mask ROM												
Part No.	Operating Voltage (V)	Operating Frequency	Operating Temperature (℃)	ROM Capacity(bit)	Number of Phrases	Maximum Playback Time(sec)	CPU I/F	SP Amp Output (W) /Class	Number of Mixing (Internal)	DAC	Others	Package
ML22562	2.7 to 5.5	4.096MHz	−40 to +85	Mask 2M	1024	98 ^{*1}	Clock synchronization Serial	1.0/ AB-class	4ch	16bit	Fail safe	SSOP30
时钟同步串行接口型式 内置Flash/Mask ROM												
ML22563/ ML22Q563	2.7 to 5.5	4.096MHz	−40 to +85	Mask/Flash 4M	1024	201 ^{*1}	Clock synchronization Serial	1.0/ AB-class	4ch	16bit	Fail safe	SSOP30
时钟同步串行接口型式 内置Flash ROM												
ML22Q374	2.0 to 5.5	4.096MHz (Built-in)	−40 to +85	Flash 692K	30	27 ^{*2}	Clock synchronization Serial	1.0/D-class	1ch	—	Disconnection/Short circuit detection Built-in oscillator	SSOP16
I ² C接口型式 内置Flash ROM												
ML22Q394	2.0 to 5.5	4.096MHz (Built-in)	−40 to +85	Flash 692K	30	27 ^{*2}	I ² C	1.0/D-class	1ch	—	Disconnection/Short circuit detection Built-in oscillator	SSOP16

*1: HQ-ADPCM取样, 频率为6.4kHz时的最长播放时间 *2: 用ADPCM2取样, 频率为6.4kHz时的最长播放时间

对应外挂存储器 语音合成LSI

(LAPIS Semiconductor产品)

4ch同时播放 串行外挂存储器												
Part No.	Operating Voltage (V)	Operating Frequency	Operating Temperature (°C)	ROM Capacity (bit)	Number of Phrases	Maximum Playback Time(sec)	CPU I/F	SP Amp Output (W) /Class	Number of Mixing (Internal)	DAC	Others	Package
ML22460	2.7 to 5.5	4.096MHz	-40 to +85	External maximum 128M	1024	139min ¹	I ² C	0.7/AB-class	4ch	16bit	—	SSOP30
ML22420	2.7 to 5.5	4.096MHz	-40 to +85	External maximum 128M	1024	139min ¹	Clock synchronization Serial	0.7/AB-class	4ch	16bit	—	SSOP30
ML22594	4.5 to 5.5	4.096MHz	-40 to +105	Mask 6M ⁴ External maximum 128M	1024 ⁵ (Built-in 512/ External 512)	Built-in 303sec ² External 109min ³	Clock synchronization Serial	1.0/AB-class	4ch	16bit	Speaker terminal short circuit detection function	SSOP30

*1: 用ADPCM取样, 频率为4kHz时的最长播放时间 *2: 用HQ-ADPCM2取样, 频率为6.4kHz时的最长播放时间
*3: 使用外挂存储器(Max.128Mbit)时, 用HQ-ADPCM取样, 频率为6.4kHz时的最长播放时间 *4: 内置Mask ROM可用6Mbit与外挂存储器(Max.128Mbit)连接。
*5: 内置Mask的512个短语和外挂存储器512个短语的合计值

高性能&超低功耗微控制器

16bit ML620500/ML620400系列

(LAPIS Semiconductor产品)

标准型 16bit低功耗微控制器													
Part No.	Operating voltage (V)	Operating frequency (Max.)		Minimum instruction execution time	Current consumption (Typ.@HALT)	Operating Temperature (°C)	ROM/RAM				Functions / Features	Package	Chip Support
		Low speed	High speed				ROM Type	ROM capacity (Byte)	Data Flash capacity (Byte)	RAM capacity (Byte)			
New ML620Q503H	1.8 to 5.5	32.768kHz (Internal RC oscillation/ Crystal oscillation/ External input)	16MHz (Internal RC oscillation/ Crystal oscillation/ External input)	62.5 ns 30.5μs	0.45μA	-40 to +85	Flash	32K	2K	2K	—	—	○
New ML620Q504H					0.45μA	-40 to +85	Flash	64K	2K	6K	—	P-TQFP48-0707-0.50	○
☆ML620Q546					T.B.D.	-40 to +95	Flash	128K	2K	10K	—	P-TQFP80-1212-0.50	—
New ML620Q558					T.B.D.	-40 to +95	Flash	256K	2K	20K	—	P-TQFP100-1414-0.50	—

☆: 开发中

超低工作电压&超低功耗微控制器

8bit ML610400系列

(LAPIS Semiconductor产品)

标准型 8bit低功耗微控制器													
Part No.	Operating voltage (V)	Operating frequency (Max.)		Minimum instruction execution time	Current consumption (Typ.@HALT)	Operating Temperature (°C)	ROM/RAM				Functions / Features	Package	Chip Support
		Low speed	High speed				ROM Type	ROM capacity (Byte)	Data Flash capacity (Byte)	RAM capacity (Byte)			
ML610Q482P	1.1 to 3.6	32.768kHz (Crystal oscillation)	4.096MHz 500kHz	0.244μs/2μs/ 30.5μs	0.5μA	-40 to +85	Flash	64K	—	4K	—	P-TQFP48-0707-0.50	○
搭载LCD驱动器 点阵式 8bit低功耗微控制器													
ML610Q421P	1.1 to 3.6	32.768kHz (Crystal oscillation)	4.096MHz 500kHz	0.244μs/2μs/ 30.5μs	0.5μA	-40 to +85	Flash	32K	—	2K	max 400dot 50seg. × 8com.	P-TQFP120-1414-0.40	○
ML610Q422P	1.1 to 3.6	32.768kHz (Crystal oscillation)	4.096MHz 500kHz	0.244μs/2μs/ 30.5μs	0.5μA	-40 to +85	Flash	32K	—	2K	max 800dot 50seg. × 16com.	P-TQFP120-1414-0.40	○
ML610Q439P	1.1 to 3.6	32.768kHz (Crystal oscillation)	4.096MHz 2MHz	0.244μs/0.5μs/ 30.5μs	0.5μA	-40 to +85	Flash	128K	—	7K	max 1024dot 64seg. × 16com.	P-LQFP144-2020-0.50	—

8bit ML610400系列

(LAPIS Semiconductor产品)

搭载LCD驱动器 段码式 8bit低功耗微控制器													
Part No.	Operating voltage (V)	Operating frequency (Max.)		Minimum instruction execution time	Current consumption (Typ.@HALT)	Operating Temperature (°C)	ROM/RAM				Functions / Features	Package	Chip Support
		Low speed	High speed				ROM Type	ROM capacity (Byte)	Data Flash capacity (Byte)	RAM capacity (Byte)			
ML610Q407P	1.25 to 3.6	32.768kHz (Crystal oscillation)	2MHz	0.5μs/ 30.5μs	0.9μA	-40 to +85	Flash	16K	—	1K	max 145dot 29seg. × 5com.	P-TQFP100-1414-0.50	○
ML610Q407PA							Flash	16K	—	1K	—	—	○
ML610Q408P							Flash	16K	—	1K	max 165dot 33seg. × 5com.	P-TQFP100-1414-0.50	○
ML610Q409P							Flash	16K	—	1K	max 185dot 37seg. × 5com.	P-TQFP100-1414-0.50	○
ML610Q411P	1.1 to 3.6	32.768kHz (Crystal oscillation)	500kHz	2μs/ 30.5μs	0.5μA	-40 to +85	Flash	16K	—	1K	max 144dot 36seg. × 4com.	P-TQFP120-1414-0.40	○
ML610Q411PA							Flash	16K	—	1K	—	P-TQFP120-1414-0.40	○
ML610Q412P							Flash	16K	—	1K	max 176dot 44seg. × 4com.	P-TQFP120-1414-0.40	○

低功耗强化微控制器(高抗噪性能)

8bit ML610100系列

(LAPIS Semiconductor产品)

标准型 8bit 低功耗强化微控制器(高抗噪性能)													
Part No.	Operating Conditions						ROM/RAM				Functions / Features	Package	Chip Support
	Operating voltage (V)	Operating frequency (Max.)		Minimum instruction execution time	Current consumption (Typ. @HALT)	Operating Temperature (°C)	ROM Type	ROM capacity (Byte)	Data Flash capacity (Byte)	RAM capacity (Byte)	LCD driver		
		Low speed	High speed										
ML610Q101	2.7 to 5.5	32.768kHz (Internal RC oscillation)	8.192MHz	0.122μs/ 30.5μs	—	-40 to +85	Flash	4K	—	256	—	P-SSOP16-0225-0.65 P-WQFN16-0404-0.50	—
ML610Q102					—		Flash	6K	—	256	—	P-SSOP16-0225-0.65 P-WQFN16-0404-0.50	—
ML610Q111					—	-40 to +105	Flash	24K	4K	2K	—	P-TSSOP20-0225-0.65	—
ML610Q112					—		Flash	32K	4K	4K	—	P-LQFP32-0707-0.80	—

16bit ML620100系列

(LAPIS Semiconductor产品)

标准型 16bit 低功耗强化微控制器(高抗噪性能)													
Part No.	Operating Conditions					ROM/RAM				Functions / Features		Package	Chip Support
	Operating voltage (V)	Operating frequency (Max.)		Minimum instruction execution time	Current consumption (Typ @HALT)	Operating Temperature (°C)	ROM Type	ROM capacity (Byte)	Data Flash capacity (Byte)	RAM capacity (Byte)	LCD driver		
		Low speed	High speed										
☆ML620Q131	1.6 to 5.5	32.768kHz (Internal RC oscillation)	16.384MHz	61.0 ns 30.5μs	3.5μA (Internal RC oscillation)	-40 to +105	Flash	8K	2K	2K	—	P-SSOP16-0225-0.65 P-WQFN16-0404-0.50	—
☆ML620Q132							Flash	16K	2K	2K	—	P-SSOP16-0225-0.65 P-WQFN16-0404-0.50	—
☆ML620Q133							Flash	24K	2K	2K	—	P-SSOP16-0225-0.65 P-WQFN16-0404-0.50	—
☆ML620Q134							Flash	8K	2K	2K	—	P-TSSOP20-0225-0.65	—
☆ML620Q135							Flash	16K	2K	2K	—	P-TSSOP20-0225-0.65	—
☆ML620Q136							Flash	24K	2K	2K	—	P-TSSOP20-0225-0.65	—
New ML620Q151A	1.8 to 5.5	32.768kHz (Internal RC oscillation/ Crystal oscillation)	8.192MHz	0.122μs/ 30.5μs	2.5 (Crystal oscillation)(T.B.D) 3.5 (Internal RC oscillation)(T.B.D)		Flash	32K	2K	2K	—	P-TQFP48-0707-0.50	—
☆ML620Q152A							Flash	48K	2K	2K	—	P-TQFP48-0707-0.50	—
☆ML620Q153A							Flash	64K	2K	2K	—	P-TQFP48-0707-0.50	—
☆ML620Q154A							Flash	32K	2K	2K	—	P-TQFP52-1010-0.65	—
☆ML620Q155A							Flash	48K	2K	2K	—	P-TQFP52-1010-0.65	—
New ML620Q156A							Flash	64K	2K	2K	—	P-TQFP52-1010-0.65	—
☆ML620Q157A							Flash	32K	2K	2K	—	P-QFP64-1414-0.80 P-TQFP64-1010-0.50	—
☆ML620Q158A							Flash	48K	2K	2K	—	P-QFP64-1414-0.80 P-TQFP64-1010-0.50-K	—
☆ML620Q159A							Flash	64K	2K	2K	—	P-QFP64-1414-0.80 P-TQFP64-1010-0.50-K	—

☆：开发中

搭载语音输出功能的微控制器

8bit ML610300系列

(LAPIS Semiconductor产品)

标准型 8bit低功耗微控制器														
Part No.	Operating Conditions					ROM/RAM					Functions / Features		Package	Chip Support
	Operating voltage (V)	Operating frequency (Max.)		Minimum instruction execution time	Current consumption (Typ. @HALT)	Operating Temperature (°C)	ROM Type	ROM capacity (Byte)	Data Flash capacity (Byte)	Memory for sound	RAM capacity (Byte)	LCD Driver		
		Low speed	High speed											
ML610Q304	2.0 to 5.5	32.768kHz (Internal RC oscillation)	8.192MHz	0.122μs/ 30.5μs	2.7μA	−40 to +85	Flash	96K	2K	Flash ROM	1K	—	P-VFN28-0505-0.50	—
ML610Q359	2.2 to 3.6	32.768kHz (Crystal oscillation)	8.192MHz	0.122μs/ 30.5μs	1.7μA	−40 to +85	Flash	160K	3K	Flash ROM	2K	—	P-TQFP64-1010-0.50	—
ML610Q360	2.2 to 3.6	32.768kHz (Crystal oscillation)	8.192MHz	0.122μs/ 30.5μs	1.7μA	−40 to +85	Flash P2ROM	160K	3K	P2ROM : 16M bit	2K	—	P-TQFP64-1010-0.50	—



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模块

电源模块

DC/DC转换器	P.94
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无线通信模块

特定小功率无线模块	P.94
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文件扫描仪用

物流、食品标签用: DC72系列	P.94
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SiC-肖特基势垒二极管

SiC-肖特基势垒二极管

	Part No.	Automotive Grade Available (AEC-Q101※)	Absolute Maximum Ratings(Ta=25℃)				Electrical Characteristics(Ta=25℃)				Package	Equivalent Circuit Diagram
			V _{RM} (V)	V _R (V)	I _F (A)	I _{FSM} (A) 60Hz,1 ϕ	V _F (V) Typ.	I _R (μ A) Max.				
								I _F (A)		V _R (V)		
	SCS206AJ	—	650	650	6	24	1.35	6	120	600	TO-263AB (LPTL)	
	SCS208AJ	—	650	650	8	31	1.35	8	160	600		
	SCS210AJ	—	650	650	10	40	1.35	10	200	600		
	SCS212AJ	—	650	650	12	45	1.35	12	240	600		
	SCS215AJ	—	650	650	15	55	1.35	15	300	600		
	SCS220AJ	—	650	650	20	71	1.35	20	400	600		
New	SCS206AJHR	Yes	650	650	6	24	1.35	6	120	600		
New	SCS208AJHR	Yes	650	650	8	31	1.35	8	160	600		
New	SCS210AJHR	Yes	650	650	10	40	1.35	10	200	600		
New	SCS212AJHR	Yes	650	650	12	45	1.35	12	240	600		
New	SCS215AJHR	Yes	650	650	15	55	1.35	15	300	600		
New	SCS220AJHR	Yes	650	650	20	71	1.35	20	400	600		
	SCS206AG	—	650	650	6	24	1.35	6	120	600	TO-220AC	
	SCS208AG	—	650	650	8	31	1.35	8	160	600		
	SCS210AG	—	650	650	10	40	1.35	10	200	600		
	SCS212AG	—	650	650	12	45	1.35	12	240	600		
	SCS215AG	—	650	650	15	55	1.35	15	300	600		
	SCS220AG	—	650	650	20	71	1.35	20	400	600		
	SCS206AGHR	Yes	650	650	6	24	1.35	6	120	600		
	SCS208AGHR	Yes	650	650	8	31	1.35	8	160	600		
	SCS210AGHR	Yes	650	650	10	40	1.35	10	200	600		
	SCS212AGHR	Yes	650	650	12	45	1.35	12	240	600		
	SCS215AGHR	Yes	650	650	15	55	1.35	15	300	600		
	SCS220AGHR	Yes	650	650	20	71	1.35	20	400	600		
	SCS206AM	—	650	650	6	24	1.35	6	120	600	TO-220FM	
	SCS208AM	—	650	650	8	31	1.35	8	160	600		
	SCS210AM	—	650	650	10	40	1.35	10	200	600		
	SCS212AM	—	650	650	12	45	1.35	12	240	600		
	SCS215AM	—	650	650	15	55	1.35	15	300	600		
	SCS220AM	—	650	650	20	71	1.35	20	400	600		
	SCS215AE	—	650	650	15	55	1.35	15	300	600	TO-247	
	SCS220AE	—	650	650	20	71	1.35	20	400	600		
	SCS220AE2	—	650	650	10/20*	40/80*	1.35	10	200	600		
	SCS230AE2	—	650	650	15/30*	55/110*	1.35	15	300	600		
	SCS240AE2	—	650	650	20/40*	71/140*	1.35	20	400	600		
	SCS220AE2HR	Yes	650	650	10/20*	40/80*	1.35	10	200	600		
	SCS230AE2HR	Yes	650	650	15/30*	55/110*	1.35	15	300	600		
	SCS240AE2HR	Yes	650	650	20/40*	71/140*	1.35	20	400	600		
	SCS205KG	—	1,200	1,200	5	23	1.4	5	100	1,200	TO-220AC	
	SCS210KG	—	1,200	1,200	10	45	1.4	10	200	1,200		
	SCS215KG	—	1,200	1,200	15	65	1.4	15	300	1,200		
	SCS220KG	—	1,200	1,200	20	82	1.4	20	400	1,200		
	SCS205KGHR	Yes	1,200	1,200	5	23	1.4	5	100	1,200		
	SCS210KGHR	Yes	1,200	1,200	10	45	1.4	10	200	1,200		
	SCS215KGHR	Yes	1,200	1,200	15	65	1.4	15	300	1,200		
	SCS220KGHR	Yes	1,200	1,200	20	82	1.4	20	400	1,200		
	SCS210KE2	—	1,200	1,200	5/10*	23/46*	1.4	5	100	1,200	TO-247	
	SCS220KE2	—	1,200	1,200	10/20*	44/88*	1.4	10	200	1,200		
	SCS230KE2	—	1,200	1,200	15/30*	65/130*	1.4	15	300	1,200		
	SCS240KE2	—	1,200	1,200	20/40*	83/160*	1.4	20	400	1,200		
	SCS210KE2HR	Yes	1,200	1,200	5/10*	23/46*	1.4	5	100	1,200		
	SCS220KE2HR	Yes	1,200	1,200	10/20*	44/88*	1.4	10	200	1,200		
	☆SCS230KE2AHR	Yes	1,200	1,200	15/30*	65/130*	1.4	15	300	1,200		
	☆SCS240KE2AHR	Yes	1,200	1,200	20/40*	83/160*	1.4	20	400	1,200		

注()内表示ROHM PKG。

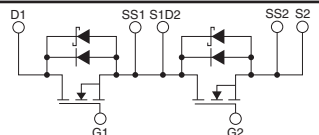
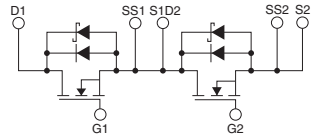
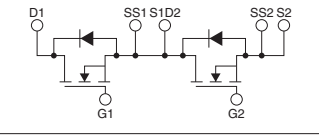
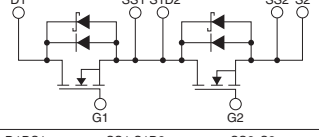
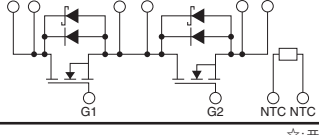
☆: 开发中 *(1引脚/封装) ※Rev.C

SiC-MOSFET

SWITCHING SERIES									
Part No.	Automotive Grade Available (AEC-Q101)	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _C =25°C)	R _{DS(on)} Typ.(mΩ)	Q _g Typ.(nC)		Package
						V _{GS} =18V	V _{GS} =18V	Drive Voltage (V)	
☆SCT3030AL	—	N	650	70	262	30	104	18	TO-247N
SCT2120AF	—	N	650	29	165	120	61	18	TO-220AB
☆SCT3022KL	—	N	1,200	95	427	22	178	18	TO-247N
☆SCT3030KL	—	N	1,200	72	339	30	131	18	
☆SCT3040KL	—	N	1,200	55	262	40	107	18	
SCH2080KE	—	N	1,200	40	262	80	106	18	TO-247
SCT2080KE	—	N	1,200	40	262	80	106	18	
☆SCT2080KEAHR	Yes	N	1,200	40	262	80	106	18	
SCT2160KE	—	N	1,200	22	165	160	62	18	
☆SCT2160KEAHR	Yes	N	1,200	22	165	160	62	18	
SCT2280KE	—	N	1,200	14	108	280	35	18	
☆SCT2280KEAHR	Yes	N	1,200	14	108	280	35	18	
SCT2450KE	—	N	1,200	10	85	450	27	18	
☆SCT2450KEAHR	Yes	N	1,200	10	85	450	27	18	
☆SCT2H12NY	—	N	1,700	4	44	1,150	14	18	TO-268-2L
☆SCT2750NY	—	N	1,700	6	57	750	17	18	

☆: 开发中

全SiC功率模块

全SiC功率模块							
Part No.	Absolute Maximum Ratings(T _a =25°C)					Package	Internal Circuit
	V _{DS} (V)	I _D (A) (T _C =60°C)	T _J (°C)	T _{stg} (°C)	Visol(V) AC 1min.		
☆BSM080D12P2C008	1,200	80	-40 to +175	-40 to +125	2,500	C type	
BSM120D12P2C005	1,200	120	-40 to +150	-40 to +125	2,500		
BSM180D12P2C101	1,200	180	-40 to +150	-40 to +125	2,500		
New BSM180D12P3C007	1,200	180	-40 to +175	-40 to +125	2,500		
New BSM300D12P2E001	1,200	300	-40 to +175	-40 to +125	2,500	E type	

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Field Stop Trench IGBT

Field Stop Trench IGBT														
Part No.	Automotive Grade Available (AEC-Q101)	V _{CES} (V)	I _C (A)		P _D (W)	V _{CE(sat)} Typ.(V)	I _C (A)	tsc Min. (μ sec)	I _F (Diode) (A)		V _F (Diode) Typ.(V)	I _F (A)	Package	Equivalent Circuit Diagram
			T _C =25°C	T _C =100°C					T _C =25°C	T _C =100°C				
RGTH40TS65	—	650	40	20	144	1.6	20	—	—	—	—	—	TO-247N	
RGTH50TS65	—	650	50	25	174	1.6	25	—	—	—	—	—		
RGTH60TS65	—	650	58	30	194	1.6	30	—	—	—	—	—		
RGTH80TS65	—	650	70	40	234	1.6	40	—	—	—	—	—		
RGTH00TS65	—	650	85	50	277	1.6	50	—	—	—	—	—		
RGTH40TS65D	—	650	40	20	144	1.6	20	—	35	20	1.45	20		
RGTH50TS65D	—	650	50	25	174	1.6	25	—	35	20	1.45	20		
RGTH60TS65D	—	650	58	30	194	1.6	30	—	40	20	1.35	20		
RGTH80TS65D	—	650	70	40	234	1.6	40	—	40	20	1.35	20		
RGTH00TS65D	—	650	85	50	277	1.6	50	—	50	30	1.45	30		
☆RGTH40TK65	—	650	23	14	56	1.6	20	—	—	—	—	—	TO-3PFM	
☆RGTH50TK65	—	650	26	16	59	1.6	25	—	—	—	—	—		
☆RGTH60TK65	—	650	28	17	61	1.6	30	—	—	—	—	—		
☆RGTH80TK65	—	650	31	19	66	1.6	40	—	—	—	—	—		
☆RGTH00TK65	—	650	35	21	72	1.6	50	—	—	—	—	—		
☆RGTH40TK65D	—	650	23	14	56	1.6	20	—	26	15	1.45	20		
☆RGTH50TK65D	—	650	26	16	59	1.6	25	—	26	15	1.45	20		
☆RGTH60TK65D	—	650	28	17	61	1.6	30	—	28	16	1.35	20		
☆RGTH80TK65D	—	650	31	19	66	1.6	40	—	28	16	1.35	20		
☆RGTH00TK65D	—	650	35	21	72	1.6	50	—	34	19	1.45	30		
New RGCL60TS60	—	600	48	30	111	1.4	30	—	—	—	—	—	TO-247N	
New RGCL80TS60	—	600	65	40	148	1.4	40	—	—	—	—	—		
New RGCL60TS60D	—	600	48	30	111	1.4	30	—	35	20	1.45	20		
New RGCL80TS60D	—	600	65	40	148	1.4	40	—	35	20	1.45	20		
☆RGCL60TK60	—	600	30	18	54	1.4	30	—	—	—	—	—	TO-3PFM	
☆RGCL80TK60	—	600	35	21	57	1.4	40	—	—	—	—	—		
☆RGCL60TK60D	—	600	30	18	54	1.4	30	—	26	15	1.45	20		
☆RGCL80TK60D	—	600	35	21	57	1.4	40	—	26	15	1.45	20		
RGT8BM65D	—	650	8	4	62	1.65	4	5	7	4	1.45	4	TO-252	
☆RGT16BM65D	—	650	16	8	94	1.65	8	5	16	8	1.4	8	TO-263 TO-262	
RGT8NS65D	—	650	8	4	65	1.65	4	5	7	4	1.45	4		
RGT16NS65D	—	650	16	8	94	1.65	8	5	16	8	1.4	8		
RGT30NS65D	—	650	30	15	133	1.65	15	5	26	15	1.5	15		
RGT40NS65D	—	650	40	20	161	1.65	20	5	35	20	1.45	20		
☆RGT50NS65D	—	650	48	25	194	1.65	25	5	35	20	1.45	20	TO-247N	
RGT40TS65D	—	650	40	20	144	1.65	20	5	35	20	1.45	20		
RGT50TS65D	—	650	48	25	174	1.65	25	5	35	20	1.45	20		
RGT60TS65D	—	650	55	30	194	1.65	30	5	40	20	1.35	20		
RGT80TS65D	—	650	70	40	234	1.65	40	5	40	20	1.35	20		
RGT00TS65D	—	650	85	50	277	1.65	50	5	50	30	1.45	30		
☆RGS60TS65DFHG	Yes	650	56	30	223	1.65	30	8	56	30	1.45	30		
☆RGS80TS65DFHG	Yes	650	73	40	272	1.65	40	8	56	30	1.45	30		
☆RGS00TS65DFHG	Yes	650	88	50	326	1.65	50	8	56	30	1.45	30		

☆:开发中 *内置FRD

Ignition IGBT

Ignition IGBT									
Part No.	Automotive Grade Available (AEC-Q101)	V _{CE} (V)	V _{GE} (V)	I _C (A)	P _D (W)	E _{as} (mJ)	V _{CE(sat)} Typ. (V)	Package	Equivalent Circuit Diagram
New RGPZ10BM40FH	Yes	430 ± 30	± 10	20	107	250	1.6	TO-252	
New RGPR10BM40FH	Yes	430 ± 30	± 10	20	107	250	1.6		

智能功率模块

IGBT-IPM								
Part No.		Power Device	V _{CE} S (V)	I _C (A)	V _{CE} (sat) (V)	Recomended Switching Frequency(kHz)	Isolation Voltage* (Vrms)	Package
New	BM63363S-VA	IGBT	600	10	1.5	Less than 6	1500	HSDIP25
New	BM63363S-VC	IGBT	600	10	1.5	Less than 6	1500	HSDIP25VC
New	BM63763S-VA	IGBT	600	10	1.7	Less than 20	1500	HSDIP25
New	BM63763S-VC	IGBT	600	10	1.7	Less than 20	1500	HSDIP25VC
New	BM63364S-VA	IGBT	600	15	1.5	Less than 6	1500	HSDIP25
New	BM63364S-VC	IGBT	600	15	1.5	Less than 6	1500	HSDIP25VC
New	BM63764S-VA	IGBT	600	15	1.7	Less than 20	1500	HSDIP25
New	BM63764S-VC	IGBT	600	15	1.7	Less than 20	1500	HSDIP25VC
	☆BM63767S-VA	IGBT	600	30	1.7	Less than 20	1500	HSDIP25
	☆BM63767S-VC	IGBT	600	30	1.7	Less than 20	1500	HSDIP25VC
MOS-IPM								
Part No.		Power Device	V _{CE} S (V)	I _C (A)	R _{on} (mΩ)	Recomended Switching Frequency(kHz)	Isolation Voltage* (Vrms)	Package
New	BM65364S-VA	MOSFET	600	15	120	Less than 20	1500	HSDIP25
New	BM65364S-VC	MOSFET	600	15	120	Less than 20	1500	HSDIP25VC

*: AC60Hz, 1min, 使用凸型散热片时支持2500Vrms

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功率MOSFET

(HSOP8 单一类型)												
Package	Application	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (T _a =25°C)	R _{DS(on)} (mΩ)				Q _g (nC) (V _{GS} =4.5V)	Drive Voltage (V)
							V _{GS} =10V Typ. Max.		V _{GS} =4.5V Typ. Max.			
(HSOP8) 	Load switch	RS1E350BN	N	30	80	35	1.2	1.7	1.8	2.5	95	4.5
		RS1E280BN		30	80	30	1.7	2.3	2.3	3.2	50	
		RS1E240BN		30	40	30	2.3	3.2	3.3	4.6	35	
		RS1E200BN		30	68	25	2.8	3.9	3.8	5.3	29	
		RS1E180BN		30	60	25	3.5	4.9	4.9	6.9	23	
		☆RS1E240AT	P	−30	−80	40	2.5	3.5	3.7	5.2	84	
	DC-DC Converter Switching	RS1E350GN	N	30	80	38	1.2	1.6	1.5	2.0	28.6	
		RS1E320GN		30	80	34	1.4	1.9	1.8	2.4	19.6	
		RS1E300GN		30	80	33	1.7	2.2	2.2	2.8	18.5	
		RS1E280GN		30	80	31	2	2.6	2.6	3.3	17.1	
		RS1E240GN		30	78	27	2.6	3.3	3.3	4.4	11.2	
		RS1E200GN		30	64	25	3.6	4.6	4.7	6.1	7.8	
		RS1E170GN		30	40	23	5.1	6.7	6.7	8.7	5.9	
		RS1E150GN		30	40	22	6.7	8.8	8.8	11.4	4.8	
		RS1E130GN		30	40	22	8.9	11.7	11.7	15.2	3.9	
		RS1G300GN		40	80	35	1.9	2.5	2.4	3.0	28.6	
		RS1G260MN		40	80	35	2.4	3.3	3.2	4.4	44*	
		RS1G180MN		40	57	30	5	7.0	6.7	9.2	19.5*	
		RS1G150MN		40	43	25	7.6	10.6	10.2	13.3	15*	
		RS1G120MN		40	34	40	11.6	16.2	15.6	20.7	9.4*	
		☆RS1L200GN		60	71	42	4	5.2	5.8	7.5	33.5	

注()内表示ROHM PKG。*: V_{GS}=10V

☆: 开发中

(HSOP8 双重类型)												
Package	Application	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (T _a =25°C)	R _{DS(on)} (mΩ)				Q _g (nC) (V _{GS} =4.5V)	Drive Voltage (V)
							V _{GS} =10V Typ. Max.		V _{GS} =4.5V Typ. Max.			
(HSOP8) 	DC-DC Converter Switching	☆HP8K24	N+N	30	29	3	2.1	2.5	2.8	3.5	13.5	4.5
		HP8K22		30	15		7.3	9.1	10.3	13	3.3	
				30	20		3.6	4.6	4.7	6.1	7.8	
				30	12		6.7	8.8	9.1	11.8	4.8	
		HP8S36	N	30	32		2	2.4	2.3	2.8	47	
			N+SBD	30	12		6.7	8.8	9.1	11.8	4.8	
	Load switch	HP8KA1	N+N	30	14		3.5	5.0	5.0	7.0	24	

注()内表示ROHM PKG。

☆: 开发中



功率MOSFET

功率MOSFET系列 1												
Package	Part No.	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _C =25℃)	R _{DS} (on)(mΩ)						Q _g (nC) (V _{GS} = 10V)
						V _{GS} =10V		V _{GS} =4.5V		V _{GS} =4.0V		
						Typ.	Max.	Typ.	Max.	Typ.	Max.	
TO-252 	RD3G800GN	N	40	80	125	2.2	2.7	2.6	3.2	—	—	65
	RD3G600GN		40	60	96	2.8	3.6	3.3	4.3	—	—	46.5
	RD3G500GN		40	50	78	3.9	4.9	4.7	6.3	—	—	31
	RD3G450GN		40	45	69	4.8	6.0	5.9	7.5	—	—	23
	RD3G400GN		40	40	63	5.6	7.5	7.0	9.5	—	—	19
	☆RD3L08BGN		60	80	125	4.0	4.9	5.0	6.7	—	—	59
	SOT-428 (CPT3 D-PAK) [SC-63] 		RSD200N05	N	45	20	20	20	28	25	35	28
RSD221N06		60	22		20	18	26	21	30	23	33	30
RSD150N06		60	15		20	28	40	33	47	36	51	18
RSD080N06		60	8		15	57	80	70	98	78	109	9.4
RSD050N06		60	5		15	78	109	94	131	100	140	8
RSD201N10		100	20		20	33	46	—	—	36	50	55
RSD175N10		100	17.5		20	75	105	80	112	85	119	24
RSD100N10		100	10		20	95	133	100	140	105	147	18
RSD050N10		100	5		15	135	190	142	200	145	205	14
RCD100N19		190	10		85	130	182	—	—	136	190	52 *2
RCD075N19		190	7.5		52	240	336	—	—	248	347	30 *2
RCD100N20		200	10		85	140	182	—	—	—	—	26 *2
RCD075N20		200	7.5		52	250	325	—	—	—	—	15 *2
RCD051N20		200	5		29	540	760	—	—	—	—	9 *2
RND030N20		200	3		22	740	820	—	—	—	—	7 *2
RCD080N25		250	8		85	225	300	—	—	—	—	25 *2
RCD060N25		250	6		52	410	530	—	—	—	—	15 *2
RCD041N25		250	4		29	930	1300	—	—	—	—	9 *2
RSD160P05		P	—45	—16	20	35	50	45	63	50	70	16 *1
RSD080P05			—45	—8	15	65	91	95	133	105	147	9 *1
RSD046P05			—45	—4.5	15	110	155	160	225	185	260	6 *1
RSD140P06			—60	—14	20	60	84	73	103	77	108	27
RSD131P10			—100	—13	20	135	200	150	220	155	230	40

注) ()内表示ROHM PKG. []内表示JEITA编号。*1: V_{GS}=5V *2: V_{GS}=10V

☆: 开发中

功率MOSFET系列 2

Package	Part No.	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _C =25°C)	R _{DS} (on)(mΩ)						Q _g (nC) (V _{GS} = 10V)
						V _{GS} =10V		V _{GS} =4.5V		V _{GS} =4.0V		
						Typ.	Max.	Typ.	Max.	Typ.	Max.	
TO-220FM 	RCX700N20	N	200	70	83	30.5	42.7	—	—	—	—	125
	RCX450N20		200	45	69	42	55	—	—	—	—	80
	RCX300N20		200	30	61	60	80	—	—	—	—	60
	RCX200N20		200	20	48	100	130	—	—	—	—	40
	RCX160N20		200	16	43	135	180	—	—	—	—	26
	RCX120N20		200	12	40	250	325	—	—	—	—	15
	RCX081N20		200	8	40	550	770	—	—	—	—	9
	RCX511N25		250	51	84	48	65	—	—	—	—	120
	RCX330N25		250	33	69	77	105	—	—	—	—	80
	RCX220N25		250	22	61	105	140	—	—	—	—	60
	RCX120N25		250	12	51	180	235	—	—	—	—	35
	RCX100N25		250	10	43	245	320	—	—	—	—	26.5
	RCX080N25		250	8	37	460	600	—	—	—	—	15
	RCX051N25		250	5	30	970	1360	—	—	—	—	9
TO-220AB 	New RX1G18BGN	N	40	180	208	1.1	1.6	1.3	1.9	—	—	168
	☆RX1G11BGN		40	110	78	3.9	4.7	4.7	5.8	—	—	31
	☆RX1L18CGN		60	180	208	1.8	2.2	2.2	2.7	—	—	151
	☆RX1L18BGN		60	180	179	2.2	2.7	2.8	3.4	—	—	115
	☆RX1L16BGN		60	160	139	3.7	4.5	4.5	5.6	—	—	73
TO-263 (LPT) 	☆RJ1G12BGN	N	40	120	208	1.2	1.4	1.4	1.6	—	—	161
	☆RJ1G08CGN		40	80	78	3.8	4.7	4.6	5.8	—	—	31
	☆RJ1L12BGN		60	120	208	2.0	2.3	2.4	2.9	—	—	145
	☆RJ1L12CGN		60	120	179	2.3	2.8	2.8	3.5	—	—	115
	☆RJ1L12DGN		60	120	139	3.2	4.0	4.1	5.1	—	—	73
	RSJ650N10		100	65	100	6.5	9.1	—	—	7	9.8	260
	RSJ550N10		100	55	100	12	16.8	—	—	13.5	18.9	143
	RSJ400N10		100	40	50	19	27	—	—	21	30	90
	RSJ301N10		100	30	50	33	46	—	—	36	50	60
	RSJ151P10	P	−100	−15	50	85	120	95	135	100	140	64
	RSJ250P10		−100	−25	50	45	63	48	67	50	70	60 *1
	RCJ700N20	N	200	70	297	30.5	42.7	—	—	—	—	125
	RCJ450N20		200	45	211	42	55	—	—	—	—	80
	RCJ300N20		200	30	166	60	80	—	—	—	—	60
	RCJ200N20		200	20	106	100	130	—	—	—	—	40
	RCJ160N20		200	16	85	135	180	—	—	—	—	26
	RCJ120N20		200	12	52	250	325	—	—	—	—	15
	RCJ081N20		200	8	40	550	770	—	—	—	—	9
	RCJ510N25		250	51	304	48	65	—	—	—	—	120
	RCJ330N25		250	33	211	77	105	—	—	—	—	80
	RCJ220N25		250	22	166	105	140	—	—	—	—	60
	RCJ120N25		250	12	107	180	235	—	—	—	—	35
	RCJ100N25		250	10	85	245	320	—	—	—	—	26.5
	RCJ080N25		250	8	55	460	600	—	—	—	—	15
	RCJ050N25		250	5	30	970	1360	—	—	—	—	9

注)()内表示ROHM PKG。 *1: V_{GS}=4.5V

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功率MOSFET

低噪声型													
Package	Application	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (T _C =25℃)	R _{DS(on)} (Ω)		Q _g Typ.(nC)	Drive Voltage (V)			
							V _{GS} =10V						
							Typ.	Max.	V _{GS} =10V				
SOT-428 (CPT3 D-PAK) [SC-63]	Switching	R6004END	N	600	4	58	0.9	0.98	15	10			
TO-252		New R6002END		600	1.7	26	2.8	3.4	6.5				
		☆R6011END3		600	11	40	0.34	0.39	32				
		☆R6009END3		600	9	40	0.5	0.535	23				
TO-263 (LPT)		☆R6007END3		600	7	40	0.57	0.62	20				
		R6024ENJ		600	24	245	0.15	0.165	70				
		R6020ENJ		600	20	231	0.17	0.196	60				
		R6015ENJ		600	15	184	0.26	0.29	40				
		R6011ENJ		600	11	124	0.34	0.39	32				
		R6009ENJ		600	9	94	0.5	0.535	23				
TO-220FM		R6007ENJ		600	7	78	0.57	0.62	20				
		R6004ENJ		600	4	58	0.9	0.98	15				
		R6030ENX		600	30	86	0.115	0.130	85				
		R6024ENX		600	24	74	0.15	0.165	70				
		R6020ENX		600	20	68	0.17	0.196	60				
		R6015ENX		600	15	60	0.26	0.29	40				
		R6011ENX		600	11	53	0.34	0.39	32				
		R6009ENX		600	9	48	0.5	0.535	23				
		R6007ENX		600	7	46	0.57	0.62	20				
		R6004ENX		600	4	40	0.9	0.98	15				
TO-3PF		R6035ENZ		600	35	120	0.095	0.102	110				
		R6030ENZ		600	30	120	0.115	0.130	85				
		R6024ENZ		600	24	120	0.15	0.165	70				
		R6020ENZ		600	20	120	0.17	0.196	60				
TO-247		R6015ENZ		600	15	120	0.26	0.29	40				
		R6076ENZ1		600	76	735	0.04	0.042	260				
		R6047ENZ1		600	47	481	0.07	0.072	145				
		R6035ENZ1		600	35	379	0.095	0.102	110				
		R6030ENZ1		600	30	305	0.115	0.130	85				
		R6024ENZ1		600	24	245	0.15	0.165	70				
		R6020ENZ1		600	20	231	0.17	0.196	60				
高速开关型													
Package		Application		Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (T _C =25℃)	R _{DS(on)} (Ω)		Q _g Typ.(nC)	Drive Voltage (V)	
	V _{GS} =10V												
	Typ.		Max.						V _{GS} =10V				
SOT-428 (CPT3 D-PAK) [SC-63]	Switching	☆R6004KND	N	600	4	58	0.9	0.98	10	10			
TO-263 (LPT)		☆R6024KNJ		600	24	245	0.15	0.165	46				
		☆R6020KNJ		600	20	231	0.17	0.196	40				
		☆R6015KNJ		600	15	184	0.26	0.29	30				
		☆R6011KNJ		600	11	124	0.34	0.39	22				
		☆R6009KNJ		600	9	94	0.5	0.535	16.5				
		☆R6007KNJ		600	7	78	0.57	0.62	15				
TO-220FM		☆R6004KNJ		600	4	58	0.9	0.98	10				
		☆R6030KNX		600	30	86	0.115	0.130	56				
		☆R6024KNX		600	24	74	0.15	0.165	46				
		☆R6020KNX		600	20	68	0.17	0.196	40				
		☆R6015KNX		600	15	60	0.26	0.29	30				
		☆R6011KNX		600	11	53	0.34	0.39	22				
		☆R6009KNX		600	9	48	0.5	0.535	16.5				
		☆R6007KNX		600	7	46	0.57	0.62	15				
		☆R6004KNX		600	4	40	0.9	0.98	10				
		☆R6035KNZ		600	35	120	0.095	0.102	72				
TO-3PF		☆R6030KNZ		600	30	120	0.115	0.130	56				
		☆R6024KNZ		600	24	120	0.15	0.165	46				
		☆R6020KNZ		600	20	120	0.17	0.196	40				
		☆R6015KNZ		600	15	120	0.26	0.29	30				
TO-247		☆R6076KNZ1		600	76	735	0.04	0.042	165				
		☆R6035KNZ1		600	35	379	0.095	0.102	72				
		☆R6030KNZ1		600	30	305	0.115	0.130	56				
		☆R6024KNZ1		600	24	245	0.15	0.165	46				
		☆R6020KNZ1		600	20	231	0.17	0.196	40				

注) ()内表示ROHM PKG. []内表示JEITA编号。

☆: 开发中

快速恢复二极管型(PrestoMOS™)												
Package	Application	Part No.	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _C =25°C)	R _{DS(on)} (Ω)		Q _g Typ.(nC)	trr(Typ.) (ns)	Drive Voltage (V)	
							V _{GS} = 10V		V _{GS} = 10V			
							Typ.	Max.				
SOT-428 (CPT3 D-PAK) [SC-63]	Switching	New R6004FND	N	600	4	65	1.70	2.30	11	60	10	
TO-252		☆R6010MND3		600	10	(40)	0.28	0.37	20	70		
TO-263 (LPT)		☆R6007MND3		600	7	(40)	0.59	0.79	10	60		
		R5016FNJ		500	16	255	0.25	0.325	46	100		
		New R5011FNJ		500	11	156	0.40	0.52	30	85		
		New R5009FNJ		500	9	119	0.65	0.84	18	78		
		R6020FNJ		600	20	304	0.22	0.28	60	105		
		R6015FNJ		600	15	255	0.27	0.35	42	90		
		R6012FNJ		600	12	198	0.39	0.51	35	75		
		R6008FNJ		600	8	119	0.73	0.95	20	67		
		R5016FNX		500	16	77	0.25	0.325	35	100		
R5011FNX		500		11	59	0.40	0.52	30	85			
R5009FNX		500		9	51	0.65	0.84	18	78			
R5007FNX		500		7	50	1.00	1.30	15	70			
TO-220FM		New R6030MNX		600	30	90	0.11	0.15	45	85		
		R6020FNX		600	20	85	0.19	0.25	65	105		
		R6015FNX		600	15	77	0.27	0.35	42	90		
		R6012FNX		600	12	67	0.39	0.51	35	75		
		New R6004FNX		600	4	50	1.70	2.30	11	60		
TO-3PF		☆R6047MNZ		600	47	102	0.065	0.088	70	105		
		R6046FNZ		600	46	130	0.075	0.093	150	145		
		R6025FNZ		600	25	150	0.14	0.18	85	120		
TO-247		☆R6076MNZ1		600	76	781	0.040	0.054	125	145		
		☆R6047MNZ1		600	47	431	0.065	0.088	70	105		
		R6046FNZ1		600	46	694	0.075	0.093	150	143		
		R6025FNZ1		600	25	446	0.14	0.18	85	120		
高速开关型												
Package	Application	Part No.	Polarity (ch)	V _{DS} (V)	I _D (A)	P _D (W) (T _C =25°C)	R _{DS(on)} (Ω)		Q _g Typ.(nC)	Drive Voltage (V)		
							V _{GS} = 10V		V _{GS} = 10V			
							Typ.	Max.				
(SOP8)	Switching	SP8K80	N+N	500	0.5	2	9	11.7	3.8	10		
SOT-428 (CPT3 D-PAK) [SC-63]		☆R8002CND	N	800	2	69	3.3	4.3	12.1			
TO-252		R8001CND		800	1	36	6.7	8.7	7.2			
		☆R8007AND3		800	7	20	1.2	1.6	28			
TO-220FM		R8010ANX		800	10	88	0.43	0.56	62			
		R8008ANX		800	8	66	0.79	1.03	39			
		R8005ANX		800	5	51	1.6	2.08	21			
		R8002ANX		800	2	38	3.3	4.3	12.7			

注) ()内表示ROHM PKG. []内表示JEITA编号。

☆:开发中



功率肖特基势垒二极管

功率肖特基势垒二极管 1												
Product No.		Absolute Maximum Ratings(T _C =25°C)				Electrical Characteristics(T _J =25°C) ^{※2}				Package	Equivalent Circuit Diagram	Automotive Grade Available (AEC-Q101)
Part No.	V _{RM} (V)	V _R (V)	I _O ^{※1} (A)	I _{FSM} (A) ^{※2} 60Hz, 1 ϕ	V _F (V) Max.	I _F (A)	I _S (mA) Max.	V _R (V)				
RB095BM-30	35	30	6	50	0.425	3	0.2	30	TO-252 (DPAK)		Yes	
New RB098BM-30	35	30	6	50	0.72	3	0.0015	30			Yes	
RB085BM-30	35	30	10	50	0.48	4	0.3	30			Yes	
New RBR10BM30A	30	30	10	50	0.55	5	0.1	30			Yes	
New RB088BM-30	35	30	10	50	0.72	5	0.003	30			Yes	
New RBR15BM30A	30	30	15	100	0.51	7.5	0.2	30			Yes	
New RBR20BM30A	30	30	20	100	0.51	10	0.3	30			Yes	
RB095BM-40	45	40	6	50	0.55	3	0.1	40			Yes	
New RB098BM-40	45	40	6	50	0.77	3	0.0015	40			Yes	
RB085BM-40	45	40	10	50	0.55	5	0.2	40			Yes	
New RBR10BM40A	40	40	10	50	0.62	5	0.12	40			Yes	
New RB088BM-40	45	40	10	50	0.77	5	0.003	40			Yes	
New RBR15BM40A	40	40	15	100	0.58	7.5	0.24	40			Yes	
New RBR20BM40A	40	40	20	100	0.58	10	0.36	40			Yes	
RBQ10BM45A	45	45	10	50	0.65	5	0.15	45			Yes	
RBQ15BM45A	45	45	15	100	0.59	7.5	0.3	45			Yes	
RBQ20BM45A	45	45	20	100	0.59	10	0.45	45			Yes	
RB095BM-60	60	60	6	50	0.58	3	0.3	60			Yes	
New RB098BM-60	60	60	6	50	0.83	3	0.0015	60			Yes	
New RB085BM-60	60	60	10	50	0.58	5	0.3	60			Yes	
New RB088BM-60	60	60	10	50	0.83	5	0.003	60			Yes	
RBQ10BM65A	65	65	10	50	0.69	5	0.15	65			Yes	
RBQ15BM65A	65	65	15	100	0.63	7.5	0.3	65			Yes	
RBQ20BM65A	65	65	20	100	0.63	10	0.45	65			Yes	
RB095BM-90	90	90	6	50	0.75	3	0.15	90			Yes	
RB085BM-90	90	90	10	50	0.83	5	0.15	90			Yes	
New RB098BM100	110	100	6	50	0.79	3	0.003	100			Yes	
RB088BM100	100	100	10	50	0.87	5	0.005	100			Yes	
New RB098BM150	150	150	6	50	0.88	3	0.007	150			Yes	
RB088BM150	150	150	10	50	0.88	5	0.015	150			Yes	
New RBR10NS30A	30	30	10	50	0.55	5	0.1	30	TO-263S (D2PAK)		Yes	
New RBR20NS30A	30	30	20	100	0.55	10	0.2	30			Yes	
New RBR30NS30A	30	30	30	100	0.55	15	0.3	30			Yes	
New RB088NS-30	35	30	10	50	0.72	5	0.003	30			Yes	
New RB218NS-30	35	30	20	100	0.72	10	0.005	30			Yes	
New RB228NS-30	35	30	30	100	0.72	15	0.01	30			Yes	
New RB238NS-30	35	30	40	100	0.75	20	0.012	30			Yes	
New RB088NS-40	45	40	10	50	0.77	5	0.003	40			Yes	
New RBR10NS40A	40	40	10	50	0.62	5	0.12	40			Yes	
New RBR20NS40A	40	40	20	100	0.62	10	0.24	40			Yes	
New RB218NS-40	45	40	20	100	0.77	10	0.005	40			Yes	
RB225NS-40	40	40	30	50	0.55	15	0.5	40			Yes	
New RBR30NS40A	40	40	30	100	0.62	15	0.36	40			Yes	
New RB228NS-40	45	40	30	100	0.77	15	0.01	40			Yes	
New RB238NS-40	45	40	40	100	0.8	20	0.012	40			Yes	
RBQ10NS45A	45	45	10	100	0.65	5	0.15	45			Yes	
RBQ20NS45A	45	45	20	100	0.65	10	0.3	45			Yes	
RBQ30NS45A	45	45	30	100	0.65	15	0.45	45			Yes	
New RB088NS-60	60	60	10	50	0.83	5	0.003	60			Yes	
New RB218NS-60	60	60	20	100	0.83	10	0.005	60			Yes	
New RB228NS-60	60	60	30	100	0.83	15	0.01	60			Yes	
New RB238NS-60	60	60	40	100	0.86	20	0.012	60			Yes	
RBQ10NS65A	65	65	10	100	0.69	5	0.15	65			Yes	
RBQ20NS65A	65	65	20	100	0.69	10	0.3	65			Yes	
RBQ30NS65A	65	65	30	100	0.69	15	0.45	65			Yes	
New RB088NS100	110	100	10	100	0.87	5	0.005	100			Yes	
New RB218NS100	110	100	20	100	0.87	10	0.007	100			Yes	
RB228NS100	110	100	30	100	0.87	5	0.005	100			Yes	
New RB298NS100	110	100	30	100	0.87	15	0.01	100			Yes	
RB238NS100	110	100	40	100	0.86	20	0.02	100			Yes	
RB088NS150	150	150	10	50	0.88	5	0.015	150	Yes			

注)※1: 每个元件的平均输出电流为I_O (含1个元件)或1/2 I_O (含2个元件)。 ※2: 每个元件的规格。

功率肖特基势垒二极管 2												
Product No.		Absolute Maximum Ratings(T _C =25°C)				Electrical Characteristics(T _J =25°C) ^{※2}				Package	Equivalent Circuit Diagram	Automotive Grade Available (AEC-Q101)
Part No.	V _{RM} (V)	V _R (V)	I _O ^{※1} (A)	I _{FSM} (A) ^{※2} 60Hz, 1 ϕ	V _F (V) Max.	I _F (A)	I _R (mA) Max.	V _R (V)				
New RB218NS150	150	150	20	100	0.88	10	0.02	150	TO-263S (D2PAK)		Yes	
New RB228NS150	150	150	30	100	0.88	15	0.025	150			Yes	
RB238NS150	150	150	40	100	0.87	20	0.03	150			Yes	
New RBR10T30A	30	30	10	50	0.55	5	0.1	30	TO-220FN (3pin)		Yes	
New RB088T-30	35	30	10	50	0.72	5	0.003	30			Yes	
New RBR20T30A	30	30	20	100	0.55	10	0.2	30			Yes	
New RB218T-30	35	30	20	100	0.72	10	0.005	30			Yes	
New RBR30T30A	30	30	30	100	0.55	15	0.3	30			Yes	
New RB228T-30	35	30	30	100	0.72	15	0.01	30			Yes	
New RB238T-30	35	30	40	100	0.75	20	0.012	30			Yes	
RB095T-40	45	40	6	100	0.55	3	0.1	40			Yes	
RB085T-40	45	40	10	100	0.55	5	0.2	40			Yes	
New RBR10T40A	40	45	10	50	0.62	5	0.12	40			Yes	
New RB088T-40	45	40	10	50	0.77	5	0.003	40			Yes	
RB205T-40	45	40	15	100	0.55	7.5	0.3	40			Yes	
RB215T-40	45	40	20	100	0.55	10	0.5	40			Yes	
New RBR20T40A	40	45	20	100	0.62	10	0.24	40			Yes	
New RB218T-40	45	40	20	100	0.77	10	0.005	40			Yes	
RB225T-40	40	40	30	100	0.63	15	0.5	40			Yes	
New RBR30T40A	40	45	30	100	0.62	15	0.36	40			Yes	
New RB228T-40	45	40	30	100	0.77	15	0.01	40			Yes	
New RB238T-40	45	40	40	100	0.8	20	0.012	40			Yes	
RBQ10T45A	45	45	10	100	0.65	5	0.15	45			Yes	
RBQ20T45A	45	45	20	100	0.65	10	0.3	45			Yes	
RBQ30T45A	45	45	30	100	0.65	15	0.45	45			Yes	
RB095T-60	60	60	6	100	0.58	3	0.1	60			Yes	
RB085T-60	60	60	10	100	0.58	5	0.3	60			Yes	
New RB088T-60	60	60	10	50	0.83	5	0.003	60			Yes	
RB205T-60	60	60	15	100	0.58	7.5	0.6	60			Yes	
New RB218T-60	60	60	20	100	0.83	10	0.005	60			Yes	
RB215T-60	60	60	20	100	0.58	10	0.6	60			Yes	
New RB228T-60	60	60	30	100	0.83	15	0.01	60			Yes	
RB225T-60	60	60	30	100	0.63	15	0.6	60			Yes	
New RB238T-60	60	60	40	100	0.86	20	0.012	60			Yes	
RBQ10T65A	65	65	10	100	0.69	5	0.15	65			Yes	
RBQ20T65A	65	65	20	100	0.69	10	0.3	65			Yes	
RBQ30T65A	65	65	30	100	0.69	15	0.45	65			Yes	
RB095T-90	90	90	6	100	0.75	3	0.15	90			Yes	
RB085T-90	90	90	10	100	0.83	5	0.15	90			Yes	
RB205T-90	90	90	15	100	0.78	7.5	0.3	90			Yes	
RB215T-90	90	90	20	100	0.75	10	0.4	90			Yes	
New RB088T100	110	100	10	100	0.87	5	0.005	100			Yes	
New RB218T100	110	100	20	100	0.87	10	0.007	100			Yes	
RB228T100	110	100	30	100	0.87	5	0.005	100			Yes	
New RB298T100	110	100	30	100	0.87	15	0.01	100			Yes	
New RB238T100	110	100	40	100	0.86	20	0.02	100			Yes	
RB088T150	150	150	10	50	0.88	5	0.015	150			Yes	
New RB218T150	150	150	20	100	0.88	10	0.02	150			Yes	
New RB228T150	150	150	30	100	0.88	15	0.025	150			Yes	
New RB238T150	150	150	40	100	0.87	20	0.03	150			Yes	
RB078BM30S	35	30	5	50	0.72	5	0.005	30	TO-252 (DPAK)		Yes	
RB075BM40S	40	40	5	50	0.75	5	0.005	40	TO-263S (D2PAK)		Yes	
RBQ30NS45B	45	45	30	100	0.59	30	0.7	45			Yes	
RBQ30TB45B	45	45	30	100	0.59	30	0.7	45	TO-220FN (2pin)		Yes	

功率整流二极管

功率整流二极管												
Product No.	Absolute Maximum Ratings($T_C=25^{\circ}\text{C}$)				Electrical Characteristics($T_J=25^{\circ}\text{C}$)							Package
Part No.	V_{RM} (V)	V_R (V)	I_O (A)	I_{FSM} (A) 60Hz, 1 ϕ	V_F (V) Max.	I_F (A)	I_R (μA) Max.	V_R (V)	t_{rr} (ns) Max.	I_F (mA)	I_R (mA)	
New RR601BM4S	400	400	6	40	1.1	6	1	400	—	—	—	TO-252 (DPAK)
☆RRD20TJ10S	1000	1000	20	200	1.05	20	10	1000	—	—	—	TO-220ACFP

☆: 开发中



功率快速恢复二极管

功率整流二极管														Package	Equivalent Circuit Diagram	Automotive Grade Available (AEC-Q101)
Product No.	Absolute Maximum Ratings(T _C =25°C)				Electrical Characteristics(T _J =25°C)*2											
Part No.	V _{RM} (V)	V _R (V)	I _O (A)	I _{FSM} (A) 60Hz, 1~	V _F (V) Max.	I _F (A)	I _R (μA) Max.	V _{RR} (V)	t _{rr} (ns) Max.	I _{rr} (A)	I _{rr} (A)					
RF601BM2D	200	200	6※1	60	0.93	3	10	200	25	0.5	1	TO-252 (DPAK)		Yes		
RFN6BM2D	200	200	6※1	40	0.98	3	10	200	25	0.5	1			Yes		
RF1001NS2D	200	200	10※1	80	0.93	5	10	200	25	0.5	1			Yes		
RF1601NS2D	200	200	16※1	100	0.93	8	10	200	30	0.5	1			Yes		
RF2001NS2D	200	200	20※1	100	0.93	10	10	200	30	0.5	1	TO-263S (D2PAK)		Yes		
RF2001NS3D	350	300	20※1	100	1.3	10	10	300	25	0.5	1			Yes		
New RFN10NS8D	800	800	10※1	60	2.1	5	10	800	40	0.5	1			Yes		
RF601T2D	200	200	6※1	60	0.93	3	10	200	25	0.5	1			Yes		
RFN6T2D	200	200	6※1	40	0.98	3	10	200	25	0.5	1	TO-220FN (3pin)		Yes		
RF1001T2D	200	200	10※1	80	0.93	5	10	200	30	0.5	1			Yes		
RFN10T2D	200	200	10※1	80	0.98	5	10	200	25	0.5	1			Yes		
RF1601T2D	200	200	16※1	100	0.93	8	10	200	30	0.5	1			Yes		
RFN16T2D	200	200	16※1	100	0.98	8	10	200	30	0.5	1			Yes		
RF2001T2D	200	200	20※1	100	0.93	10	10	200	30	0.5	1			Yes		
RFN20T2D	200	200	20※1	100	0.98	10	10	200	30	0.5	1			Yes		
RF2001T3D	350	300	20※1	100	1.3	10	10	300	25	0.5	1			Yes		
☆RFN30TS2D	200	200	30※1	180	0.98	15	10	200	30	0.5	1	TO-247		—		
☆RFN30TS3D	300	300	30※1	200	1.2	15	10	300	35	0.5	1			—		
RFN30TS6D	600	600	30※1	120	1.55	15	10	600	55	0.5	1			—		
RFUH30TS6D	600	600	30※1	80	2.8	15	10	600	30	0.5	1			—		
RFN60TS6D	600	600	60※1	180	1.55	30	10	600	60	0.5	1	TO-252 (DPAK)		—		
RFUH60TS6D	600	600	60※1	120	2.8	30	10	600	35	0.5	1			—		
RF301BM2S	200	200	3	40	0.93	3	10	200	25	0.5	1			Yes		
RFN3BM2S	200	200	3	40	0.98	3	10	200	25	0.5	1			Yes		
RF501BM2S	200	200	5	40	0.92	5	1	200	25	0.5	1	TO-263S (D2PAK)		Yes		
RFN5BM2S	200	200	5	40	0.98	5	10	200	25	0.5	1			Yes		
RFN5BM3S	350	350	5	50	1.5	5	10	350	30	0.5	1			Yes		
RF305BM6S	600	600	3	50	1.7	3	10	600	30	0.5	1			Yes		
RFN3BM6S	600	600	3	20	1.55	3	10	600	30	0.5	1			Yes		
RF505BM6S	600	600	5	50	1.7	5	10	600	30	0.5	1			Yes		
RFN5BM6S	600	600	5	30	1.55	5	10	600	50	0.5	1			Yes		
RFN5BM6S	600	600	5	50	1.3	5	10	600	60	0.5	1			Yes		
RFN10BM3S	350	350	10	80	1.5	10	10	350	30	0.5	1	TO-220FN (3pin)		Yes		
RFN10BM6S	600	600	10	100	1.55	10	10	600	50	0.5	1			Yes		
RF1501NS3S	350	300	20	100	1.5	20	10	300	30	0.5	1			Yes		
RFN10NS3S	350	350	10	100	1.5	10	10	350	30	0.5	1			Yes		
RFN20NS3S	350	350	20	100	1.35	20	10	350	35	0.5	1	TO-220NFM (3pin)		Yes		
RFUH20NS3S	350	350	20	100	1.5	20	10	350	25	0.5	1			Yes		
RFUH25NS3S	350	350	20	100	1.45	20	10	350	30	0.5	1			Yes		
RFN10NS4S	430	430	10	80	1.55	10	10	430	30	0.5	1			Yes		
RFUH10NS4S	430	430	10	80	1.7	10	10	430	25	0.5	1	TO-247		Yes		
RFN20NS4S	430	430	20	100	1.55	20	10	430	30	0.5	1			Yes		
RFUS20NS4S	430	430	20	100	1.6	20	10	430	35	0.5	1			Yes		
RFUH20NS4S	430	430	20	100	1.7	20	10	430	25	0.5	1			Yes		
RFN10NS6S	600	600	10	100	1.55	10	10	600	50	0.5	1	TO-220FN (3pin)		Yes		
RFUH10NS6S	600	600	10	60	2.8	10	10	600	25	0.5	1			Yes		
RFN20NS6S	600	600	20	100	1.55	20	10	600	60	0.5	1			Yes		
RFUH20NS6S	600	600	20	100	2.8	20	10	600	35	0.5	1			Yes		
RFUS20NS6S	600	600	20	100	2.8	20	10	600	35	0.5	1	TO-220FN (3pin)		Yes		
RF2001T4S	430	400	20	100	1.6	20	10	400	30	0.5	1			Yes		
RFUS20TM4S	430	430	20	100	1.6	20	10	430	35	0.5	1			Yes		
RFUS20TM6S	600	600	20	100	2.8	20	10	600	35	0.5	1			Yes		
RFN30TS6S	600	600	30	200	1.55	30	10	600	60	0.5	1	TO-220NFM (2pin)		—		
RFUH30TS6S	600	600	30	150	2.8	30	10	600	35	0.5	1			—		
RFUH20TB3S	350	350	20	100	1.5	20	10	350	25	0.5	1			Yes		
RFUH25TB3S	350	350	20	100	1.45	20	10	350	30	0.5	1			Yes		
RFN10TB4S	430	430	10	80	1.55	10	10	430	30	0.5	1	TO-220FN (2pin)		Yes		
RFUH10TB4S	430	430	10	80	1.7	10	10	430	25	0.5	1			Yes		
RFN20TB4S	430	430	20	100	1.55	20	10	430	30	0.5	1			Yes		
RFUH20TB4S	430	430	20	100	1.7	20	10	430	25	0.5	1			Yes		
RF1501TF3S	350	300	20	100	1.5	20	10	300	30	0.5	1	TO-220NFM (2pin)		Yes		
RFUS10TF4S	430	430	10	80	1.7	10	10	430	30	0.5	1			Yes		
RF505TF6S	600	600	5	80	1.7	5	10	600	30	0.5	1			Yes		
RFN5TF6S	600	600	5	30	1.55	5	10	600	50	0.5	1			Yes		
RFUH5TF6S	600	600	5	30	2.8	5	10	600	25	0.5	1	TO-220NFM (2pin)		Yes		
RF1005TF6S	600	600	10	100	1.7	10	10	600	40	0.5	1			Yes		
RFN10TF6S	600	600	10	100	1.55	10	10	600	50	0.5	1			Yes		
RFUH10TF6S	600	600	10	60	2.8	10	10	600	25	0.5	1			Yes		
RFN20TF6S	600	600	20	100	1.55	20	10	600	60	0.5	1	TO-220NFM (2pin)		Yes		
RFUH20TF6S	600	600	20	100	2.8	20	10	600	35	0.5	1			Yes		
RFUS20TF6S	600	600	20	100	2.8	20	10	600	35	0.5	1			Yes		
RFN5TF8S	800	800	5	60	2.1	5	10	800	40	0.5	1			Yes		
New RFN15TJ6S	600	600	5	50	1.3	5	10	600	60	0.5	1	TO-220ACFP		—		
New RFN10TJ6S	600	600	10	120	1.25	8	10	600	65	0.5	1			—		
New RFN15TJ6S	600	600	15	160	1.3	15	10	600	65	0.5	1			—		
New RFN20TJ6S	600	600	20	200	1.3	20	10	600	70	0.5	1			—		
New RFN20TJ6S	600	600	20	150	1.55	20	10	600	60	0.5	1	TO-220ACFP		—		
New RFUH20TJ6S	600	600	20	120	2.8	20	10	600	35	0.5	1			—		
New RFV58TJ6S	600	600	8	60	3.0	8	10	600	20	0.5	1			—		
New RFV8TJ6S	600	600	8	100	2.8	8	10	600	25	0.5	1			—		
New RFV12TJ6S	600	600	12	120	2.8	12	10	600	25	0.5	1	TO-220ACFP		—		
New RFV15TJ6S	600	600	15	150	2.8	15	10	600	30	0.5	1			—		
New RFV58TG6S	600	600	8	60	3.0	8	10	600	20	0.5	1			—		
New RFV8TG6S	600	600	8	100	2.8	8	10	600	25	0.5	1			—		
New RFV12TG6S	600	600	12	120	2.8	12	10	600	25	0.5	1	TO-220AC		—		
New RFV15TG6S	600	600	15	150	2.8	15	10	600	30	0.5	1			—		
New RFV30TG6S	600	600	30	200	2.8	30	10	600	35	0.5	1			—		
☆RFV30TG6S	600	600	30	200	2.8	30	10	600	35	0.5	1			—		

MOSFET

中功率MOSFET系列<MPT3 • HUML2020L8 • HSMT8 • HSML3030L10封装>																					
Package	Application	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (Ta=25℃)	R _{DS(on)} (mΩ)												Q _g (nC) (V _{GS} =5V)		
							V _{GS} =10V		V _{GS} =4.5V		V _{GS} =4.0V		V _{GS} =2.5V		V _{GS} =1.8V		V _{GS} =1.5V				
							Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
 SOT-89 (MPT3) [SC-62] 4540 Size	DC-DC Converte Motor Drive	RHP030N03	N	30	3.0	2	90	120	—	—	160	210	—	—	—	—	—	—	6.5*3		
		RJP020N06		60	2.0	2	—	—	165	240	170	250	210	300	—	—	—	—	5*4		
		RHP020N06		60	2.0	2	150	200	200	280	240	340	—	—	—	—	—	—	7*3		
 DFN2020-8S (HUML2020L8 Single) 2020 Size	DC-DC Converter	RF4E110GN	N	30	11	2	8.7	11.3	11.7	15.3	—	—	—	—	—	—	—	—	3.5*1		
		RF4E080GN		30	8.0	2	13.5	17.6	17.6	22.8	—	—	—	—	—	—	—	—	—	2.8*1	
		RF4E070GN		30	7.0	2	16.4	21.4	23.0	30.0	—	—	—	—	—	—	—	—	—	2.2*1	
		☆RF4G090GN		40	9.0	2	14.0	18.0	17.0	23.0	—	—	—	—	—	—	—	—	—	3.7	
		RF4E110BN		30	11	2	8.5	11.1	11.8	15.4	—	—	—	—	—	—	—	—	—	12*1	
	Load switch Switching	New RF4E100AJ	N	30	10	2	—	—	11.0	14.0	—	—	15	19	—	—	—	—	—	13*1	
		RF4E080BN		30	8.0	2	13.5	17.6	18.9	24.6	—	—	—	—	—	—	—	—	—	7.2*1	
		RF4E070BN		30	7.0	2	22.0	28.6	30.8	40.0	—	—	—	—	—	—	—	—	—	4.6*1	
		RF4C050AP		-20	-5.0	2	—	—	—	—	18	26	22	31	27	45	32	65	55*1		
		New RF4C100BC		-20	-10	2	—	—	12.0	15.6	—	—	15.4	20.0	23.5	37.6	—	—	—	23.5*1	
		New RF4E075AT		-30	-7.5	2	16.7	21.7	24.4	31.7	—	—	—	—	—	—	—	—	—	11*1	
		DC-DC Converter Switching		New UT6K3	N+N	30	5.5	2	—	—	30	42	—	—	45	63	—	—	—	—	—
New UT6J3	P+P		-20	-3.0	2	—	—	60	85	—	—	65	95	95	155	130	260	8.5*1			
New UT6MA3	N+P		30	5.5	2	—	—	40	42	—	—	45	63	—	—	—	—	—	2.5		
-20			-5	2	—	—	42	59	—	—	54	76	—	—	—	—	—	5.0			
☆UT6MA2	N		30	5	2	36	47	56	73	—	—	—	—	—	—	—	—	—	2.0		
 (HSMT8) 3333 Size	DC-DC Converter Switching	RQ3E180GN	N	30	29*2	20*2	3.3	4.3	4.3	5.5	—	—	—	—	—	—	—	—	11.0*1		
		RQ3E150GN		30	20*2	17*2	4.7	6.1	6.2	8.1	—	—	—	—	—	—	—	—	—	7.4*1	
		RQ3E120GN		30	16*2	16*2	6.7	8.8	9.1	11.8	—	—	—	—	—	—	—	—	—	4.8*1	
		RQ3E100GN		30	14*2	15*2	8.9	11.7	12.0	15.7	—	—	—	—	—	—	—	—	—	3.9*1	
		RQ3E080GN		30	11*2	14*2	12.9	16.7	17.5	22.8	—	—	—	—	—	—	—	—	—	2.8*1	
		New RQ3G150GN		40	29*2	20*2	6.7	7.4	8.0	11.8	—	—	—	—	—	—	—	—	—	12.3	
		RQ3G100GN		40	16*2	16*2	11.0	14.3	14.1	18.3	—	—	—	—	—	—	—	—	—	4.3*1	
		New RQ3L090GN		60	30*2	20*2	9.7	13.6	13.7	19.2	—	—	—	—	—	—	—	—	—	1.3*1	
		New RQ3L050GN		60	12*2	14*2	43	61	61	86	—	—	—	—	—	—	—	—	—	2.8*1	
		New RQ3E180AJ		30	30*2	20*2	—	—	3.5	4.5	—	—	4.5	5.8	—	—	—	—	—	39	
	Load switch Switching	RQ3E180BN	N	30	30*2	20*2	2.8	3.9	3.7	5.2	—	—	—	—	—	—	—	—	—	37*1	
		RQ3E160AD		30	30*2	18*2	3.5	4.5	5.0	7.0	—	—	—	—	—	—	—	—	—	25*1	
		RQ3E150BN		30	22*2	17*2	3.8	5.3	5.3	7.4	—	—	—	—	—	—	—	—	—	23*1	
		RQ3E130BN		30	19*2	16*2	4.4	6.0	6.7	9.4	—	—	—	—	—	—	—	—	—	16*1	
		RQ3E120BN		30	16*2	16*2	6.6	9.3	8.6	11.9	—	—	—	—	—	—	—	—	—	14*1	
		RQ3E100BN		30	13*2	15*2	7.7	10.4	11.0	15.3	—	—	—	—	—	—	—	—	—	10.5*1	
		RQ3E080BN		30	11*2	14*2	11.0	15.2	16.0	22.0	—	—	—	—	—	—	—	—	—	7.2*1	
		RQ3E070BN		30	9*2	13*2	20.0	27	29.0	39	—	—	—	—	—	—	—	—	—	4.6*1	
		New RQ3C150BC		P	-20	-30*2	20*2	—	—	4.8	6.7	—	—	6.0	8.4	8.6	13.8	—	—	—	80
		RQ3E120AT			-30	-30*2	20*2	6.1	8.0	8.7	11.3	—	—	—	—	—	—	—	—	—	33*1
 (HSML3030L10) 3030 Size	DC-DC Converter	HS8K1	N+N	30	10	2	11.2	14.6	14.7	19.2	—	—	—	—	—	—	—	—	2.7		
				30	11	2	9.1	11.8	11.9	15.5	—	—	—	—	—	—	—	—	—	3.3	
		HS8K11		30	7.0	2	12.8	17.9	20.8	29.1	—	—	—	—	—	—	—	—	—	5.7	
				30	11	2	10.2	13.3	11.8	15.4	—	—	—	—	—	—	—	—	—	—	9.0

注()内表示ROHM PKG., []内表示JEITA编号。 *1 : V_{GS}=4.5V *2 : T_C=25°C *3 : V_{GS}=10V *4 : V_{GS}=4V

☆: 开发中



MOSFET

<SOP8封装>(Single Type)																
Package	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (Ta=25°C)	R _{DS(on)} (mΩ)										Q _g (nC) (V _{GS} =5V)
						V _{GS} =10V		V _{GS} =4.5V		V _{GS} =4.0V		V _{GS} =2.5V		V _{GS} =1.5V		
						Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	
(SOP8) 5060 Size	RUS100N02	N	20	10	2	—	—	8	12	—	—	9	13	13	19	24*1
	RXH125N03		30	12.5	2	7.5	12	9.5	13.3	10	14	—	—	—	—	12.7
	RXH100N03		30	10	2	9.5	13	12	17	13	18	—	—	—	—	11
	RXH090N03		30	9	2	12	17	17	24	19	27	—	—	—	—	6.8
	RXH070N03		30	7	2	20	28	25	35	28	39	—	—	—	—	5.8
	RSH070N05		45	7	2	18	25	23	32	25	35	—	—	—	—	12
	RSH065N06	P	60	6.5	2	24	37	28	44	31	48	—	—	—	—	11
	RRH140P03		-30	-14	2	5	7	6.7	9.4	7.3	10.2	—	—	—	—	80
	RRH100P03		-30	-10	2	9	12.6	12.5	17.5	14	19.6	—	—	—	—	39
	RRH090P03		-30	-9	2	11	15.4	15	21	17	24	—	—	—	—	30
	RRH050P03		-30	-5	2	36	50	52	72	58	80	—	—	—	—	9.2
	RRH040P03		-30	-4	2	55	75	85	115	95	125	—	—	—	—	5.2
	New RS3E075AT		-30	-7.5	2	18	23.5	24	31	—	—	—	—	—	—	12.8*1
	RSH070P05		-45	-7	2	19	27	25	35	28	39	—	—	—	—	34
<SOP8封装>(Dual Type)																
Package	Part No.	Polarity (ch)	V _{DSS} (V)	I _D (A)	P _D (W) (Ta=25°C)	R _{DS(on)} (mΩ)						Q _g (nC) (V _{GS} =5V)				
						V _{GS} =10V		V _{GS} =4.5V		V _{GS} =4.0V		Q _g (nC) (V _{GS} =5V)				
						Typ.	Max.	Typ.	Max.	Typ.	Max.					
(SOP8) 5060 Size	☆SH8KA4	N+N	30	9	2	14	18	20	26	—	—	8*1				
	☆SH8KA2		30	7.0	2	25	38	33	50	—	—	3.7*1				
	SH8K13		30	6	2	22	31	30	42	35	49	5				
	SH8K12		30	5	2	30	42	40	56	45	63	4				
	☆SH8KA1		30	4.5	2	58	75	91	118	—	—	1.5*1				
	SH8K11		30	3.5	2	70	98	90	126	100	140	1.9				
	SH8K26		40	7	2	27	38	35	50	—	—	2.9				
	SH8K25		40	5.2	2	60	85	80	112	—	—	1.7				
	☆SH8K39		60	10	2	12	16	15	20	—	—	12.2*1				
	SH8K32		60	4.5	2	46	65	52	73	55	77	7				
	SH8K41		80	3.4	2	90	130	110	150	120	160	6.6				
	New SH8K52		100	3.0	2	120	170	135	190	—	—	8.5				
	SH8J66	P+P	-30	-9	2	13.5	18.5	17.5	23.6	19	24.7	35				
	SH8J65		-30	-7	2	21.5	29	29	39	31	40.8	18				
	SH8J62		-30	-4.5	2	40	56	55	77	60	84	8				
	☆SH8J31		-60	-4.5	2	50	70	55	80	60	85	40*2				
	SH8M14	N+P	30	9	2	15	21	18	25	20	28	8.5				
	SH8M13		-30	-7		21.5	29	29	39	31	40.8	18				
	SH8M12		30	6	2	22	31	30	42	35	49	5				
	SH8M11		-30	-7		21.5	29	29	39	31	40.8	18				
	SH8M24		30	5	2	30	42	40	56	45	63	4				
	SH8M41		-30	-4.5		40	56	55	77	60	84	8				
	SP8M51		30	3.5	2	70	98	90	126	100	140	1.9				
			-30	-3.5		70	98	100	140	110	155	4.2				
			45	4.5	2	33	46	41	57	46	64	6.8				
			-45	-3.5		45	63	60	84	66	92	13				
			80	3.4	2	90	130	110	150	120	160	6.6				
	-80		-2.6	165		240	220	300	230	310	8.2					
	100		3	2	120	170	130	180	135	190	8.5					
	-100		-2.5		210	290	230	320	240	340	12.5					

注()内表示ROHM PKG。 *1: V_{GS}=4.5V *2: V_{GS}=10V

☆: 开发中

肖特基势垒二极管

中功率肖特基势垒二极管 1													
Part No.	Absolute Maximum Ratings(T _c =25°C)				Electrical Characteristics(T _J =25°C)				Package	Equivalent Circuit Diagram	Automotive Grade Available (AEC-Q101)		
	V _{RM} (V)	V _R (V)	I _O *1 (A)	I _{FSM} (A) 60Hz, 1ϕ	V _F (V) Max.	I _F (A)	I _R (mA) Max.	V _{RR} (V)					
RBE05AS20A	30	20	0.5	1	0.53	0.5	0.15	20	DFN1006-2 (VML2)		—		
RBE05SM20A	30	20	0.5	1	0.53	0.5	0.15	20	SOD-523 (EMD2)		—		
RB551SS-30	30	20	0.5	5	0.47	0.5	0.1	20	DFN1608-2 (KMD2)		—		
RB161SS-20	30	20	1	5	0.42	1	1	20			—		
New RB160SS-30	30	30	1	5	0.52	1	0.035	30			—		
RB550SS-30	30	30	0.5	5	0.59	0.5	0.008	15			—		
New RB161SS-30	40	30	1	5	0.52	1	0.5	30			—		
New RB560SS-40	40	40	0.5	5	0.64	0.5	0.04	40			—		
New RB561SS-40	40	40	0.5	5	0.56	0.5	0.3	40			—		
RB160SS-40	40	40	1	5	0.55	0.7	0.05	20			—		
New RB550VM-30	30	30	0.5	1	0.59	0.5	0.03	30			Yes		
RB551VM-30	30	20	0.5	2	0.36	0.1	0.1	20			SOD-323FL (UMD2)		—
RBE05VM20A	30	20	0.5	2	0.43	0.5	0.2	20	—				
New RB560VM-40	40	40	0.5	2	0.64	0.5	0.04	40	Yes				
New RB561VM-40	40	40	0.5	2	0.56	0.5	0.3	40	—				
RBE07V20A	30	20	0.7	1	0.43	0.5	0.2	20	—				
RB162VAM-20	25	20	1	5	0.4	1	1.2	20	—				
RB161VAM-20	30	20	1	5	0.42	1	1	20	—				
RBE1VAM20A	30	20	1	3	0.53	1	0.2	20	—				
RBE2VAM20A	30	20	2	5	0.46	2	0.7	20	—				
RSX051VAM30	30	30	0.5	5	0.39	0.5	0.2	30	—				
RB550VAM-30	30	30	1	3	0.52	1	0.03	10	(TUMD2M)		—		
RSX101VAM30	30	30	1	5	0.47	1	0.2	30			—		
New RB168VAM-30	30	30	1	5	0.73	1	0.0003	30			—		
RSX201VAM30	30	30	1.5	8	0.46	1.5	0.3	30			—		
RB160VAM-40	40	40	1	5	0.55	0.7	0.05	40			—		
New RB168VAM-40	40	40	1	5	0.79	1	0.0005	40			—		
RB400VAM-50	50	40	0.5	3	0.55	0.5	0.05	30			—		
RB160VAM-60	60	60	1	3	0.67	1	0.4	60			—		
New RB168VAM-60	60	60	1	5	0.82	1	0.001	60			—		
RB021VAM90	90	90	0.2	5	0.49	0.2	0.9	90			—		
New RB578VAM100	100	100	0.7	5	0.85	0.7	0.0002	100			—		
New RB168VAM100	100	100	1	5	0.84	1	0.0003	100			—		
New RB558VAM150	150	150	0.5	3	0.95	0.5	0.0005	150			—		
New RB168VAM150	150	150	1	5	0.89	1	0.001	150			—		
New RSX051VYM30	30	30	1	3	0.52	1	0.03	10			Yes		
New RB550VYM-30	30	30	1	3	0.52	1	0.03	10			Yes		
New RSX101VYM30	30	30	1	5	0.47	1	0.2	30			Yes		
New RB160VYM-40	40	40	1	5	0.55	0.7	0.05	40			Yes		
New RB400VYM-50	50	40	0.5	3	0.55	0.5	0.05	30			Yes		
New RB160VYM-60	60	60	1	3	0.67	1	0.4	60			Yes		
New RB168VYM-30	30	30	1	5	0.73	1	0.0003	30			Yes		
New RB168VYM-40	40	40	1	5	0.79	1	0.0005	40			Yes		
New RB168VYM100	100	100	1	5	0.84	1	0.0003	100			Yes		
New RSX201VYM30	30	30	1.5	8	0.46	1.5	0.3	30			Yes		
New RB578VYM100	100	100	0.7	5	0.85	0.7	0.0002	100			Yes		
New RB168VYM-60	60	60	1	5	0.82	1	0.001	60			Yes		
New RB558VYM150	150	150	0.5	3	0.95	0.5	0.0005	150			Yes		
New RB168VYM150	150	150	1	5	0.89	1	0.001	150			Yes		
RB051MM-2Y	20	20	3	30	0.46	3	0.9	20			SOD-123FL (PMDU)		—
RB161MM-20	25	20	1	30	0.35	1	0.7	20					—
RB162MM-30	30	30	1	30	0.52	1	0.1	30					Yes
RB160MM-30	30	30	1	30	0.48	1	0.05	30					Yes
RSX101MM-30	30	30	1	45	0.39	1	0.2	30					Yes
New RBR1MM30A	30	30	1	30	0.48	1	0.05	30					Yes
New RB168MM-30	30	30	1	20	0.69	1	0.0006	30					Yes
RB070MM-30	30	30	1.5	30	0.49	1.5	0.05	30					Yes
RB060MM-30	30	30	2	55	0.49	2	0.05	30					Yes
New RBR2MM30A	30	30	2	30	0.53	2	0.05	30					Yes
New RBR2MM30B	30	30	2	30	0.49	2	0.08	30	Yes				
New RBR3MM30A	30	30	3	30	0.51	3	0.1	30	Yes				
New RB068MM-30	30	30	2	30	0.7	2	0.0008	30	Yes				
RB162MM-40	40	40	1	30	0.55	1	0.1	40	Yes				
RB160MM-40	40	40	1	30	0.51	1	0.03	40	Yes				
New RB168MM-40	40	40	1	30	0.65	1	0.00055	40	Yes				
New RBR1MM40A	40	40	1	20	0.52	1	0.05	40	Yes				
RB060MM-40	40	40	2	30	0.56	2	0.5	40	Yes				
New RB068MM-40	40	40	2	30	0.725	2	0.00055	40	Yes				
New RBR2MM40A	40	40	2	20	0.62	2	0.05	40	Yes				
New RBR2MM40B	40	40	2	30	0.56	2	0.08	40	Yes				
New RBR2MM40C	40	40	2	30	0.54	2	0.10	40	Yes				
New RBR3MM40A	40	40	3	30	0.62	3	0.08	40	Yes				
New RBR3MM40B	40	40	3	30	0.58	3	0.10	40	Yes				
RB162MM-60	60	60	1	20	0.65	1	0.1	60	Yes				
RB160MM-60	60	60	1	30	0.55	1	0.05	60	Yes				
New RBR1MM60A	60	60	1	20	0.53	1	0.075	60	Yes				
New RB168MM-60	60	60	1	30	0.68	1	0.0015	60	Yes				
RB060MM-60	60	60	2	30	0.61	2	0.05	60	Yes				
New RBR2MM60A	60	60	2	20	0.65	2	0.075	60	Yes				
New RBR2MM60B	60	60	2	30	0.58	2	0.1	60	Yes				
New RBR2MM60C	60	60	2	30	0.55	2	0.12	60	Yes				
New RB068MM-60	60	60	2	30	0.765	2	0.0015	60	Yes				
New RBR3MM60A	60	60	3	30	0.66	3	0.1	60	Yes				
New RBR3MM60B	60	60	3	30	0.61	3	0.12	60	Yes				
RB160MM-90	90	90	1	30	0.73	1	0.1	90	Yes				
New RB168MM100	100	100	1	30	0.81	1	0.0006	100	Yes				
New RB168MM150	150	150	1	30	0.84	1	0.004	150	Yes				



注)※1: 每个元件的平均输出电流为I_O (含1个元件)或1/2 I_O (含2个元件)。
()内表示ROHM PKG。

肖特基势垒二极管

中功率肖特基势垒二极管 2												
Part No.	Absolute Maximum Ratings(T _C =25°C)				Electrical Characteristics(T _J =25°C) ^{※2}				Package	Equivalent Circuit Diagram	Automotive Grade Available (AEC-Q101)	
	V _{RM} (V)	V _R (V)	I _O ^{※1} (A)	I _{FSM} (A) ^{※2} 60Hz.1~	V _F (V) Max.	I _F (A)	I _R (mA) Max.	V _R (V)				
RSX501L-20	25	20	5	70	0.39	3	0.5	20	DO-214AC (SMA) (PMDS)		—	
RB081L-20	25	20	5	70	0.45	5	0.7	20			—	
RB161L-40	40	20	1	70	0.4	1	1	20			—	
RB051L-40	40	20	3	70	0.45	3	1	20			—	
New RBR1L30A	30	30	1	30	0.48	1	0.05	30			Yes	
New RB168L-30	30	30	1	20	0.69	1	0.0006	30			Yes	
RSX205L-30	30	30	2	60	0.49	2	0.2	30			Yes	
RSX201L-30	30	30	2	60	0.44	2	0.15	30			Yes	
New RBR2L30A	30	30	2	40	0.49	2	0.08	30			Yes	
New RB068L-30	30	30	2	40	0.7	2	0.0008	30			Yes	
RSX301L-30	30	30	3	70	0.42	3	0.2	30			Yes	
RB055L-30	30	30	3	55	0.55	3	0.05	30			Yes	
New RBR3L30A	30	30	3	30	0.58	3	0.05	30			Yes	
New RBR3L30B	30	30	3	40	0.53	3	0.08	30			Yes	
New RB058L-30	30	30	3	40	0.68	3	0.0025	30			Yes	
RB080L-30	30	30	5	70	0.51	5	0.15	30			Yes	
New RBR5L30A	30	30	5	50	0.54	5	0.1	30			Yes	
New RBR5L30B	30	30	5	50	0.49	5	0.15	30			Yes	
RB162L-40	40	40	1	20	0.55	1	0.5	40			Yes	
RB160L-40	40	40	1	70	0.55	1	0.1	40			—	
New RBR1L40A	40	40	1	30	0.52	1	0.05	40			Yes	
New RB168L-40	40	40	1	30	0.65	1	0.00055	40			Yes	
RB060L-40	40	40	2	70	0.5	2	1	40			Yes	
RB068L-40	40	40	2	40	0.69	2	0.001	40			Yes	
New RBR2L40A	40	40	2	40	0.55	2	0.08	40			Yes	
RB056L-40	40	40	3	70	0.67	3	0.05	40			Yes	
RB055L-40	40	40	3	40	0.65	3	0.5	40			Yes	
RB050L-40	40	40	3	70	0.55	3	1	40			Yes	
RB058L-40	40	40	3	70	0.7	3	0.005	40			Yes	
New RBR3L40A	40	40	3	30	0.69	3	0.05	40			Yes	
New RBR3L40B	40	40	3	40	0.62	3	0.08	40			Yes	
New RBR3L40C	40	40	3	50	0.55	3	0.1	40			Yes	
New RBR5L40A	40	40	5	50	0.53	5	0.2	40			Yes	
RB162L-60	60	60	1	20	0.65	1	0.1	60			Yes	
RB160L-60	60	60	1	30	0.58	1	1	60			—	
New RB168L-60	60	60	1	30	0.68	1	0.0015	60			Yes	
New RBR1L60A	60	60	1	30	0.53	1	0.075	60			Yes	
RB068L-60	60	60	2	40	0.7	2	0.002	60			Yes	
New RBR2L60A	60	60	2	30	0.65	2	0.075	60			Yes	
New RBR2L60B	60	60	2	50	0.52	2	0.15	60			Yes	
RB055L-60	60	60	3	70	0.68	3	0.07	60			Yes	
RB050L-60	60	60	3	70	0.52	2	0.1	60			Yes	
RB058L-60	60	60	3	70	0.64	3	0.004	60			Yes	
New RBR3L60A	60	60	3	40	0.66	3	0.1	60			Yes	
New RBR3L60B	60	60	3	50	0.56	3	0.15	60			Yes	
New RBR5L60A	60	60	5	50	0.55	5	0.25	60			Yes	
RB160L-90	95	90	1	30	0.73	1	0.1	90			Yes	
New RB168L100	100	100	1	30	0.81	1	0.0006	100			Yes	
RB068L100	100	100	2	60	0.79	2	0.015	100			Yes	
New RB168L150	150	150	1	30	0.84	1	0.004	150			Yes	
New RB068L150	150	150	2	50	0.81	2	0.003	150			Yes	
New RB058L150	150	150	3	50	0.85	3	0.003	150			Yes	
RB461F	25	20	0.7	3	0.49	0.7	0.2	20	SOT-323 (UMD3)		—	
RB491D	25	20	1	3	0.45	1	0.2	20	SOT-346 (SMD3)		—	
RB411D	40	20	0.5	3	0.5	0.5	0.03	10			Yes	
RB400D	40	40	0.5	3	0.55	0.5	0.05	30			Yes	
RB496KA	—	20	1 ^{※2}	5	0.43	1	0.8	10	SOT-353 (TUMD5)		—	
RBE1KA20A	30	20	1	3	0.43	0.5	0.2	20	—			
RB496EA	20	20	1 ^{※2}	10	0.4	1	0.5	10	—			
RBE2EA20A	30	20	2	5	0.39	1	0.7	20	—			
RB552EA	30	30	1	7	0.59	0.5	0.008	15	SOT-25T (TSMD5)		Yes	
RB550EA	30	30	1.4	15	0.49	0.7	0.05	30			Yes	
RB061US-30	30	30	2	8	0.4	2	0.9	15	TSMD8		—	

注) ※1 : 每个元件的平均输出电流为I_O (含1个元件)或1/2 I_O (含2个元件)。※2 : 每个元件的规格。
()内表示ROHM PKG。

2引脚(单) 4引脚(双)齐纳二极管 1													
Package	Surface Mount Type												
	0402 Size DSN0402-2(SMD0402)			0603 Size DSN0603-2(SMD0603)			0603 Size SOD-962(GMD2)			1006 Size SOD-923(VMN2)			
Equivalent Circuit Diagram													
Series Name	RASMD® New FDZ Series			RASMD® SDZ Series			GDZ Series			CDZ Series			
Power(mW)	100			100			100			100			
Taping Code	T15R			T15R			T2R			T2RA			
Electrical Characteristics (Ta=25°C)	V _Z (V)	I _Z (mA)		V _Z (V)	I _Z (mA)		V _Z (V)	I _Z (mA)		V _Z (V)	I _Z (mA)		
Voltage	—	—	—	—	—	—	—	—	—	2.0B	2.02 to 2.20	5	
	—	—	—	—	—	—	—	—	—	2.2B	2.22 to 2.41	5	
	—	—	—	—	—	—	—	—	—	2.4B	2.43 to 2.63	5	
	—	—	—	—	—	—	—	—	—	2.7B	2.69 to 2.91	5	
	—	—	—	—	—	—	—	—	—	3.0B	3.01 to 3.22	5	
	—	—	—	—	—	—	—	—	—	3.3B	3.32 to 3.53	5	
	—	—	—	—	—	—	—	—	—	3.6B	3.600 to 3.845	5	
	—	—	—	—	—	—	3.9	3.74 to 4.16	5	3.9B	3.89 to 4.16	5	
	—	—	—	—	—	—	—	—	—	4.3B	4.17 to 4.43	5	
	—	—	—	—	—	—	4.7	4.42 to 4.90	5	4.7B	4.55 to 4.75	5	
	5.1	4.84 to 5.37	5	5.1	4.84 to 5.37	5	5.1	4.84 to 5.37	5	5.1B	4.98 to 5.20	5	
	5.6	5.31 to 5.92	5	5.6	5.31 to 5.92	5	5.6	5.31 to 5.92	5	5.6B	5.49 to 5.73	5	
	6.2	5.86 to 6.53	5	6.2	5.86 to 6.53	5	6.2	5.86 to 6.53	5	6.2B	6.06 to 6.33	5	
	6.8	6.47 to 7.14	5	6.8	6.47 to 7.14	5	6.8	6.47 to 7.14	5	6.8B	6.65 to 6.93	5	
	7.5	7.06 to 7.84	5	7.5	7.06 to 7.84	5	7.5	7.06 to 7.84	5	7.5B	7.28 to 7.60	5	
	8.2	7.76 to 8.64	5	8.2	7.76 to 8.64	5	8.2	7.76 to 8.64	5	8.2B	8.02 to 8.36	5	
	—	—	—	—	—	—	—	—	—	—	9.1B	8.85 to 9.23	5
	—	—	—	—	—	—	—	—	—	—	10B	9.77 to 10.21	5
	—	—	—	—	—	—	—	—	—	—	11B	10.76 to 11.22	5
	—	—	—	—	—	—	—	—	—	—	12B	11.74 to 12.24	5
	—	—	—	—	—	—	—	—	—	—	13B	12.91 to 13.49	5
	—	—	—	—	—	—	—	—	—	—	15B	14.34 to 14.98	5
	—	—	—	—	—	—	—	—	—	—	16B	15.85 to 16.51	5
	—	—	—	—	—	—	—	—	—	—	18B	17.56 to 18.35	2
	—	—	—	—	—	—	—	—	—	—	20B	19.52 to 20.39	2
	—	—	—	—	—	—	—	—	—	—	22B	21.54 to 22.47	2
	—	—	—	—	—	—	—	—	—	—	24B	23.72 to 24.78	2
	—	—	—	—	—	—	—	—	—	—	27B	26.19 to 27.53	2
	—	—	—	—	—	—	—	—	—	—	30B	29.19 to 30.69	2
	—	—	—	—	—	—	—	—	—	—	33B	32.15 to 33.79	2
—	—	—	—	—	—	—	—	—	—	36B	35.07 to 36.87	2	
Package	Surface Mount Type												
	1006 Size SOD-923(VMN2M)												

◎RASMID®:采用ROHM独有的新工艺,实现小型化,具有惊人尺寸精度的超小型产品系列。
RASMID®是罗姆的注册商标。

齐纳二极管 (包括TVS)

2引脚(单) 4引脚(双)齐纳二极管 2												
Package	Surface Mount Type											
												
Equivalent Circuit Diagram												
Series Name	New YFZV Series			New TDZV Series			New YDZV Series			New KDZV Series		
Power(mW)	500			500			500			1000		
Taping Code	TR			TR			TR			TR		
Electrical Characteristics (Ta=25°C)	Vz (V)		Iz (mA)	Vz (V)		Iz (mA)	Vz (V)		Iz (mA)	Vz (V)		Iz (mA)
Voltage	2.0B	2.02 to 2.20	20	—	—	—	—	—	—	2.0B	2.00 to 2.24	40
	2.2B	2.22 to 2.41	20	—	—	—	—	—	—	2.2B	2.20 to 2.45	40
	2.4B	2.43 to 2.63	20	—	—	—	—	—	—	2.4B	2.40 to 2.70	40
	2.7B	2.69 to 2.91	20	—	—	—	—	—	—	2.7B	2.70 to 3.10	40
	3.0B	3.01 to 3.22	20	—	—	—	—	—	—	3.0B	3.00 to 3.40	40
	3.3B	3.32 to 3.53	20	—	—	—	—	—	—	3.3B	3.30 to 3.70	40
	3.6B	3.600 to 3.845	20	—	—	—	—	—	—	3.6B	3.60 to 4.00	40
	3.9B	3.89 to 4.16	20	—	—	—	—	—	—	3.9B	3.90 to 4.40	40
	4.3B	4.17 to 4.43	20	—	—	—	—	—	—	4.3B	4.30 to 4.80	40
	4.7B	4.55 to 4.80	20	—	—	—	—	—	—	4.7B	4.70 to 5.20	40
	5.1B	4.94 to 5.20	20	5.1	4.60 to 5.60	10	5.1	4.60 to 5.60	10	5.1B	5.10 to 5.70	40
	5.6B	5.45 to 5.73	20	5.6	5.10 to 6.10	10	5.6	5.10 to 6.10	10	5.6B	5.60 to 6.30	40
	6.2B	5.96 to 6.27	20	6.2	5.60 to 6.80	10	6.2	5.60 to 6.80	10	6.2B	6.20 to 7.00	40
	6.8B	6.49 to 6.83	20	6.8	6.20 to 7.40	10	6.8	6.20 to 7.40	10	6.8B	6.80 to 7.70	40
	7.5B	7.07 to 7.45	20	7.5	6.80 to 8.30	10	7.5	6.80 to 8.30	10	7.5B	7.50 to 8.40	40
	8.2B	7.78 to 8.19	20	8.2	7.40 to 9.00	10	8.2	7.40 to 9.00	10	8.2B	8.20 to 9.30	40
	9.1B	8.57 to 9.01	20	9.1	8.20 to 10.00	10	9.1	8.20 to 10.00	10	9.1B	9.10 to 10.20	40
	10B	9.41 to 9.90	20	10	9.00 to 11.00	10	10	9.00 to 11.00	10	10B	10.00 to 11.20	40
	11B	10.50 to 11.05	10	11	9.90 to 12.10	10	11	9.90 to 12.10	10	11B	11.00 to 12.30	20
	12B	11.44 to 12.03	10	12	10.80 to 13.20	10	12	10.80 to 13.20	10	12B	12.00 to 13.50	20
	13B	12.55 to 13.21	10	13	11.70 to 14.30	10	13	11.70 to 14.30	10	13B	13.30 to 15.00	20
	15B	13.89 to 14.62	10	15	13.50 to 16.50	10	15	13.50 to 16.50	10	15B	14.70 to 16.50	20
	16B	15.25 to 16.04	10	16	14.40 to 17.60	10	16	14.40 to 17.60	10	16B	16.20 to 18.30	20
	18B	16.82 to 17.70	10	18	16.20 to 19.80	10	18	16.20 to 19.80	10	18B	18.00 to 20.30	20
	20B	18.63 to 19.59	10	20	18.00 to 22.00	10	20	18.00 to 22.00	10	20B	20.00 to 22.40	20
	22B	20.64 to 21.71	5	22	19.80 to 24.20	10	22	19.80 to 24.20	10	22B	22.00 to 24.50	10
	24B	22.61 to 23.77	5	24	21.60 to 26.40	10	24	21.60 to 26.40	10	24B	24.00 to 27.60	10
	27B	24.97 to 26.26	5	27	24.30 to 29.70	10	27	24.30 to 29.70	10	27B	27.00 to 30.80	10
	30B	27.70 to 29.13	5	30	27.00 to 33.00	10	30	27.00 to 33.00	10	30B	30.00 to 34.00	10
	33B	30.32 to 31.88	5	—	—	—	—	—	—	33B	33.00 to 37.00	10
	36B	32.79 to 34.49	5	—	—	—	—	—	—	36B	36.00 to 40.00	10
	39B	35.36 to 37.19	5	—	—	—	—	—	—	—	—	—

Package	Surface Mount Type											
												
Equivalent Circuit Diagram												
Series Name	PTZ Series			UMZK Series			New UDZLV Series			New KDZLV Series		
Power(mW)	1000			200			200			1000		
Taping Code	TE25			TL			TE-17			TR		
Electrical Characteristics (Ta=25°C)	Vz (V)		Iz (mA)	Vz (V)		Iz (mA)	Vz (V)		Iz (mA)	Vz (V)		Iz (mA)
Voltage	2.0B	2.00 to 2.24	40	—	—	—	51	48 to 54	2	51	48 to 54	2
	2.2B	2.20 to 2.45	40	—	—	—	56	53 to 60	2	56	53 to 60	2
	2.4B	2.40 to 2.70	40	—	—	—	62	58 to 66	2	62	58 to 66	2
	2.7B	2.70 to 3.10	40	—	—	—	68	64 to 72	2	68	64 to 72	2
	3.0B	3.00 to 3.40	40	—	—	—	75	70 to 79	2	75	70 to 79	2
	3.3B	3.30 to 3.70	40	—	—	—	82	77 to 87	2	82	77 to 87	2
	3.6B	3.60 to 4.00	40	3.6K	3.600 to 3.845	5	91	85 to 96	1	91	85 to 96	2
	3.9B	3.90 to 4.40	40	3.9K	3.89 to 4.16	5	100	94 to 106	1	100	94 to 106	2
	4.3B	4.30 to 4.80	40	4.3K	4.17 to 4.43	5	110	104 to 116	1	110	104 to 116	2
	4.7B	4.70 to 5.20	40	4.7K	4.55 to 4.75	5	120	114 to 126	1	120	114 to 126	2
	5.1B	5.10 to 5.70	40	5.1K	4.98 to 5.20	5	130	122 to 138	1	130	122 to 138	2
	5.6B	5.60 to 6.30	40	5.6K	5.49 to 5.73	5	150	140 to 160	1	150	140 to 160	2
	6.2B	6.20 to 7.00	40	6.2K	6.06 to 6.33	5	—	—	—	—	—	—
	6.8B	6.80 to 7.70	40	6.8K	6.65 to 6.93	5	—	—	—	—	—	—
	7.5B	7.50 to 8.40	40	7.5K	7.28 to 7.60	5	—	—	—	—	—	—
	8.2B	8.20 to 9.30	40	8.2K	8.02 to 8.36	5	—	—	—	—	—	—
	9.1B	9.10 to 10.20	40	9.1K	8.85 to 9.23	5	—	—	—	—	—	—
	10B	10.00 to 11.20	40	10K	9.77 to 10.21	5	—	—	—	—	—	—
	11B	11.00 to 12.30	20	11K	10.76 to 11.22	5	—	—	—	—	—	—
	12B	12.00 to 13.50	20	12K	11.74 to 12.24	5	—	—	—	—	—	—
	13B	13.30 to 15.00	20	13K	12.91 to 13.49	5	—	—	—	—	—	—
	15B	14.70 to 16.50	20	15K	14.34 to 14.98	5	—	—	—	—	—	—
	16B	16.20 to 18.30	20	16K	15.85 to 16.51	5	—	—	—	—	—	—
	18B	18.00 to 20.30	20	18K	17.56 to 18.35	5	—	—	—	—	—	—
	20B	20.00 to 22.40	20	20K	19.52 to 20.39	5	—	—	—	—	—	—
	22B	22.00 to 24.50	10	22K	21.54 to 22.47	5	—	—	—	—	—	—
	24B	24.00 to 27.60	10	24K	23.72 to 24.78	5	—	—	—	—	—	—
	27B	27.00 to 30.80	10	27K	26.19 to 27.53	5	—	—	—	—	—	—
	30B	30.00 to 34.00	10	30K	29.19 to 30.69	5	—	—	—	—	—	—
	33B	33.00 to 37.00	10	33K	32.15 to 33.79	5	—	—	—	—	—	—
	36B	36.00 to 40.00	10	36K	35.07 to 36.87	5	—	—	—	—	—	—

注)表中是量产中的细分区。
()内表示ROHM PKG。

电阻值范围一览表

■低阻值产品系列

品名 / mm[inch] / 刊载页

PSR GMR PML PMR 金属板型

UCR LTR MCR 厚膜型

Power Rating (W)	Resistance[Ω]	0.1m	1m	10m	100m	1	10
5		0.2m PSR500 / 15×7.75[5931] 2m					
4		0.3m PSR400 / 10×5.2[3921] 3m					
3		0.3m ☆PSR100 / 6.35×3.05[2512] 3m		10m ☆GMR100 / 6432[2512] 220m			
2		PML100 / 6432[2512] 1m 2.2m	1m PMR100 / 6432[2512] 10m		100m LTR100 / 6432[2512] 910m		
1.5		PML50 / 5025[2010] 0.5m 2.2m					
1		PMR25 / 3225[1210] 1m 5m	1m PMR18 / 3216[1206] 10m	47m MCR100 / 6432[2512] 9.1			
		PML18 / 3216[1206] 0.5m 2.5m		10m LTR18 / 3216[1206] 1			
0.66		PML10 / 2012[0805] 1m 2.5m					
1/2				47m MCR50 / 5025[2010] 9.1			
				47m MCR25 / 3225[1210] 9.1			
			2m PMR10 / 2012[0805] 10m	11m UCR18 / 3216[1206] 100m			
1/3				47m LTR10 / 2012[0805] 9.1			
				11m UCR10 / 2012[0805] 100m			
1/4				47m MCR18 / 3216[1206] 9.1			
				47m MCR10 / 2012[0805] 9.1			
			PMR03 / 1608[0603] 10m	20m UCR03 / 1608[0603] 200m			
1/5			PMR01 / 1005[0402] 10m	UCR03 / 1608[0603] 220m 910m			
1/8				68m UCR01 / 1005[0402] 910m			
1/10				100m UCR006 / 0603[0201] 910m			
1/16				MCR03 / 1608[0603] 1 9.1			
1/20				MCR01 / 1005[0402] 1 9.1			
				☆MCR006 / 0603[0201] 1 9.1			

☆：开发中

■1Ω以上产品系列

品名 / mm[inch] / 刊载页

ESR SDR KTR LTR MCR SFR SMR 厚膜型

Power Rating (W)	Resistance[Ω]	1	10	100	1K	10K	100K	1M	10M	30M
2		1 LTR100 / 6432[2512] 1M								
1		1 LTR50 / 5025[2010] 1M								
		1 MCR100 / 6432[2512] 100K								
0.75		1 LTR18 / 3216[1206] 1M								
1/2		1 MCR50 / 5025[2010] 560K								
		1 ESR25 / 3225[1210] 10M								
2/5		1 ESR10 / 2012[0805] 30M								
1/3		1 KTR25 / 3225[1210] 10M								
		1 ESR18 / 3216[1206] 15M								
		1 MCR25 / 3225[1210] 3.3M								
1/4		1 MCR18 / 3216[1206] 10M								
		1 KTR18 / 3216[1206] 15M								
		1 LTR10 / 2012[0805] 1M								
		1 SDR03 / 1608[0603] 10M								
		1 ESR03 / 1608[0603] 10M								
1/5		1 ESR01 / 1005[0402] 10M								
1/8		1 MCR10 / 2012[0805] 10M								
		1 KTR10 / 2012[0805] 30M								
1/10		1 MCR03 / 1608[0603] 10M								
		1 KTR03 / 1608[0603] 10M								
		1 SFR03 / 1608[0603] 10M								
		1 MCR01 / 1005[0402] 10M								
1/16		1 SFR01 / 1005[0402] 10M								
1/20		1 MCR006 / 0603[0201] 10M								
1/32		1 MCR004 / 0402[01005] 3M								
1/50		10 SMR003 / 03015[009005] 1M								

厚膜贴片电阻器(高可靠型)
抗硫化贴片电阻器: SFR系列

•采用罗姆独有的结构, 大幅提升抗硫化性能。

SFR系列								
Part No.	Size code mm(inch)	Rated power (70°C)	Limiting element voltage (V)	Tolerance	Temperature coefficient (ppm/°C)	Resistance range		Operating temperature range (°C)
New SFR01	1005 (0402)	0.063W (1/16W)	50	J(±5%)	+500/-250 ±200	1Ω to 9.1Ω (E24 Series)	10Ω to 10MΩ (E24 Series)	-55 to +155
				F(±1%)	±100	10Ω to 2.2MΩ (E24,96 Series)		
New SFR03	1608 (0603)	0.1W (1/10W)	50	J(±5%)	±400 ±200	1Ω to 9.1Ω (E24 Series)	10Ω to 10MΩ (E24 Series)	
				F(±1%)	±100	10Ω to 10MΩ (E24,96 Series)		

※E24 : 标准品 / E96 : 订购产品

电流检测用贴片电阻器 (金属板型)
超低阻值 分流电阻器: PMR系列

- 超低阻值范围 (1mΩ-).
- 采用无切割结构, 避免热集中, 减少表面温度上升。
- 电阻体采用特殊合金, 实现优异的温度特性。

PMR系列							
Part No.	Size code mm(inch)	Rated power (70°C)	Tolerance	Temperature coefficient (ppm/°C)	Resistance value (mΩ)	Operating temperature range (°C)	Automotive Grade Available (AEC-Q200)
New PMR01	1005 (0402)	0.2W (1/5W)	J(±5%)	0 to 200	10	-55 to +155	Yes
PMR03	1608 (0603)	0.25W (1/4W)	J(±5%) F(±1%)	0 to 150	10(☆5)		Yes
PMR10	2012 (0805)	0.5W (1/2W)	J(±5%) F(±1%)	±150	2,3,4,5,6, 7,8,9,10		Yes
PMR18	3216 (1206)	1W	J(±5%) F(±1%)	±100	1,2,3,4,5,6, 7,8,9,10		Yes
PMR25	3225 (1210)	1W	J(±5%) F(±1%)	±100	1,2,3,4,5		Yes
PMR50	5025 (2010)	1W	J(±5%) F(±1%)	±100	1,2,3,4,5, 6,7,8,9,10		Yes
PMR100	6432 (2512)	2W	J(±5%) F(±1%)	±150	1,2		Yes
		☆3W	J(±5%) F(±1%)	±100	3,4,5,6,7,8,9,10		
			J(±5%) F(±1%)	±150	1,2		

☆ : 开发中

大电流跳线类型					
Part No.	Size code mm(inch)	Rated current	Resistance	Operating temperature range(°C)	Automotive Grade Available(AEC-Q200)
PMR01	1005 (0402)	20.0A	0.5mΩ Max.	-55 to +155	Yes
PMR03	1608 (0603)	22.4A			Yes
PMR10	2012 (0805)	31.6A			Yes
PMR18	3216 (1206)	38.7A			Yes
PMR25	3225 (1210)	44.7A			Yes
PMR50	5025 (2010)	50.0A			Yes
PMR100	6432 (2512)	63.2A			Yes

电流检测用贴片电阻器 (金属板型)
超低阻值 分流电阻器 <长边电极型>: PML系列

- 超低阻值范围 (0.5mΩ-).
- 采用长边电极结构, 提高接合可靠性和散热性。
- 采用无切割结构, 避免热集中, 减少表面温度上升。

PML系列							
Part No.	Size code mm(inch)	Rated power (70°C)	Tolerance	Temperature coefficient (ppm/°C)	Resistance value (mΩ)	Operating temperature range (°C)	Automotive Grade Available (AEC-Q200)
PML10	1220 (0508)	0.66W	J(±5%) G(±2%)	±200	1.0, 1.5, 2.0, 2.5	-55 to +155	Yes
PML18	1632 (0612)	1W	J(±5%) G(±2%)	±150	0.5, 1.0, 1.5, 2.0, 2.5		Yes
New PML50	2550 (1020)	1.5W (2W at 25°C)	J(±5%)	±200	0.5, 1.0, 1.5, 2.0, 2.2		Yes
PML100	3264 (1225)	2W (3W at 25°C)	J(±5%)	±100	1.0, 1.5, 2.0, 2.2		Yes
		2W		±150	0.5		

电流检测用贴片电阻器 (金属板型)

大功率 超低阻值 分流电阻器: PSR系列

- 3W~5W大功率

•超低温阻值范围 (0.2mΩ-)
- 优异的温度特性

•采用凸型形状

PSR系列							
Part No.	Size code mm(inch)	Rated power (70℃)	Tolerance	Temperature coefficient*1 (ppm/℃)	Resistance range (mΩ)	Operating temperature range (℃)	Automotive Grade Available (AEC-Q200)
☆PSR100	6432 (2512)	3W	F(±1%)	±175	0.3, 0.5	-55 to +170	Preparing
				±100	1.0		
				±75	2.0, 3.0		
New PSR400	10×5.2 (3921)	4W	F(±1%)	±175	0.3, 0.5		Yes
				±75	1.0, 2.0, 3.0		
New PSR500	15×7.75 (5931)	5W	F(±1%)	±225	0.2		
				±150	0.3, 0.4, 0.5		
				±75	1.0, 2.0		

*1(+20°C to +125°C)
☆: 开发中

电流检测用贴片电阻器 (金属板型)

大功率 超低阻值 分流电阻器: GMR系列

- 3W大功率

•优异的散热性能
- 优异的温度特性

•阻值范围10mΩ to 220mΩ

GMR系列							
Part No.	Size code mm(inch)	Rated power (70°C)	Tolerance	Temperature coefficient*1 (ppm/°C)	Resistance range	Operating temperature range (°C)	Automotive Grade Available (AEC-Q200)
☆GMR100	6432 (2512)	3W	J(±5%) F(±1%)	±20	5mΩ to 220mΩ (E6 Series*2)	-55 to +170	Preparing

*1(+20°C to +60°C)
*2 本系列以外电阻值请另行联系。
☆: 开发中(根据阻值不同, 日程不同, 另请垂询。)

电流检测用贴片电阻器 (厚膜型)

方形贴片电阻器: MCR低阻值系列

- 极低阻值 (47mΩ), 厚电阻体。

•采用了金属釉阻体的高可靠性贴片电阻器。

MCR低阻值系列							
Part No.	Size code mm(inch)	Rated power (70°C)	Tolerance	Temperature coefficient (ppm/°C)	Resistance range	Operating temperature range (°C)	Automotive Grade Available (AEC-Q200)
☆MCR006	0603 (0201)	0.05W (1/20W)	F (±1%)	+600 / -200	1.0Ω to 9.1Ω (E24 Series)	-55 to +155	Yes
MCR01	1005 (0402)	0.063W (1/16W)	F (±1%)	±400	1.0Ω to 9.1Ω (E24 Series)		Yes
MCR03	1608 (0603)	0.1W (1/10W)	F (±1%)	±400	1.0Ω to 9.1Ω (E24 Series)		Yes
MCR10	2012 (0805)	0.25W (1/4W)	J (±5%) F (±1%)	*Table1 *Table1	0.047Ω to 0.91Ω (E24 Series) 0.047Ω to 9.1Ω (E24 Series)		Yes
MCR18	3216 (1206)	0.25W (1/4W)	J (±5%) F (±1%)	*Table1 *Table1	0.047Ω to 0.91Ω (E24 Series) 0.047Ω to 9.1Ω (E24 Series)		Yes
MCR25	3225 (1210)	0.5W (1/2W)	J (±5%) F (±1%)	300±300 ±200 300±300 ±200	0.047Ω to 0.091Ω (E24 Series) 0.1Ω to 0.91Ω (E24 Series) 0.047Ω to 0.091Ω (E24 Series) 0.1Ω to 9.1Ω (E24 Series)		Yes
MCR50	5025 (2010)	0.5W (1/2W)	J (±5%) F (±1%)	*Table1 *Table1	0.047Ω to 0.91Ω (E24 Series) 0.047Ω to 9.1Ω (E24 Series)		Yes
MCR100	6432 (2512)	1W	J (±5%) F (±1%)	*Table1 *Table1	0.047Ω to 0.91Ω (E24 Series) 0.047Ω to 9.1Ω (E24 Series)	-55 to +125	Yes

☆: 开发中

*表1

Tolerance	Temperature coefficient (ppm/°C)	Resistance range
J (±5%)	500±300	0.047Ω to 0.091Ω (E24 Series)
F (±1%)	400±200	0.1Ω to 0.13Ω (E24 Series)
	±250	0.15Ω to 9.1Ω (E24 Series)

电流检测用贴片电阻器 (厚膜型)

背面电极型 贴片电阻器: UCR系列

- 电流检测用贴片电阻器。(11mΩ~)
- 采用背面贴装结构, 减少贴装时的阻值偏差。
- 采用独创的散热设计, 实现最佳额定功率。

UCR系列							
Part No.	Size code mm(inch)	Rated power (70°C)	Tolerance	Temperature coefficient (ppm/°C)	Resistance range	Operating temperature range (°C)	Automotive Grade Available (AEC-Q200)
New UCR006	0603 (0201)	0.1W (1/10W)	J (±5%) F (±1%)	0 to 300	100mΩ to 910mΩ (E24 Series)	-55 to +155	Yes
UCR01	1005 (0402)	0.125W (1/8W)	J (±5%) F (±1%)	0 to 300 0 to 250 0 to 200	68mΩ to 91mΩ (E24 Series) 100mΩ to 200mΩ (E24 Series) 220mΩ to 910mΩ (E24 Series)		Yes
UCR03	1608 (0603)	0.25W (1/4W)	J (±5%) F (±1%)	0 to 250 0 to 200 0 to 150	20mΩ to 47mΩ (E24 Series) 51mΩ to 91mΩ (E24 Series) 100mΩ to 200mΩ (E24 Series)		Yes※1
		0.2W (1/5W)	J (±5%) F (±1%)	0 to 150	220mΩ to 910mΩ (E24 Series)		
UCR10	2012 (0805)	0.33W (1/3W)	J (±5%)	250±200 0 to 250 0 to 150	11mΩ to 18mΩ (E24 Series) 20mΩ to 47mΩ (E24 Series) 51mΩ to 100mΩ (E24 Series)		Yes
			F (±1%)	0 to 250 0 to 150	11mΩ to 47mΩ (E24 Series) 51mΩ to 100mΩ (E24 Series)		
UCR18	3216 (1206)	0.5W (1/2W)	J (±5%)	0 to 350 0 to 200 0 to 150	11mΩ to 18mΩ (E24 Series) 20mΩ to 39mΩ (E24 Series) 43mΩ to 100mΩ (E24 Series)		Yes
			F (±1%)	0 to 150	43mΩ to 100mΩ (E24 Series)		
		☆1.0W	J (±5%)	0 to 350 0 to 200	11mΩ to 18mΩ (E24 Series) 20mΩ to 39mΩ (E24 Series)		Yes
			F (±1%)	0 to 200	20mΩ to 39mΩ (E24 Series)		

※1 仅限100mΩ及以上
☆: 开发中

电流检测用贴片电阻器 (厚膜型)

大功率贴片电阻器 <长边电极型>: LTR低阻值系列

- 电流检测用贴片电阻器。(10mΩ~)
- 通过采用长边电极结构, 大幅提高对于温度变化的连接可靠性。
- 额定功率大, 可与小尺寸产品进行替换。

LTR低阻值系列							
Part No.	Size code mm(inch)	Rated power (70°C)	Tolerance	Temperature coefficient (ppm/°C)	Resistance range	Operating temperature range (°C)	Automotive Grade Available (AEC-Q200)
LTR10	1220 (0508)	0.5W (1/2W)	J(±5%) F(±1%)	±150	47mΩ to 9.1Ω(E24 Series)	-55 to +155	Yes
LTR18	1632 (0612)	1W	J(±5%)	0 to 300 0 to 200 0 to 150 ±100	10mΩ to 18mΩ(E24 Series) 20mΩ to 47mΩ(E24 Series) 51mΩ to 470mΩ(E24 Series) 510mΩ to 1Ω(E24 Series)		Yes
			F(±1%)				
LTR100	3264 (1225)	2W	J(±5%)	±200	100mΩ to 910mΩ(E24 Series)		Yes
			F(±1%)	0 to 150	100mΩ to 910mΩ(E24 Series)		

贴片LED

〈PICOLED®(露克镭)〉																	
Package (mm)	Part No.	Emitting Color	Absolute Maximum Ratings(Ta=25℃)						Electrical and Optical Characteristics(Ta=25℃)							Automotive Grade Available	
			Power Dissipation P _D (mW)	Forward Current I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature T _{opr} (℃)	Storage Temperature T _{stg} (℃)	Forward Voltage V _F (V)		Reverse Current I _R (μA)		Dominant Wavelength λ _D (nm)		Luminous Intensity I _v (mcd)		
			Typ.	I _F (mA)	Max.	V _R (V)						Typ. *	I _F (mA)	Min.	Typ. (mcd)	I _F (mA)	
	SML-P11VT(R)	Red	50							1.8		626		1.6	4.0	—	
	SML-P11UT(R)	Red										621		1.0	2.5	—	
	SML-P11DT(R)	Orange	52	20	100 _{※2}	5	-40 to +85	-40 to +100	1	10	5	605	1	4.0	7.3	1	
	SML-P11YT(R)	Yellow							1.9			586		4.0	7.6	—	
	SML-P11MT(R)	Yellowish-Green	54									569		1.0	2.1	—	
	SML-P12VT(R)	Red	50						2.0			630		25	40	—	
	SML-P12UT(R)	Red										620		40	60	—	
	SML-P12U2T(R)	Red										615		25	70	—	
	SML-P12DT(R)	Orange										605		63	82	—	
	SML-P12Y3T(R)											596		40	90	—	
	SML-P12YT(R)	Yellow	52	20	100 _{※2}				2.1	20	10	590	20	25	70	20	
	SML-P12WT(R)											585		25	70	—	
	SML-P12Y2T(R)											580		16	50	—	
	SML-P12M2T(R)					5	-40 to +85	-40 to +100				576				—	
	SML-P12MT(R)	Yellowish-Green	54						2.2			572		10	25	—	
	SML-P13FT(R)	Green	52						2.1			566		6.3	18	—	
	SML-P13PT(R)											560		4.0	10	—	
	SMLP13EC8T	Bluish-Green							3.0			527		(56)	110	—	
	SMLP13BC8T	Blue	33	10	50 _{※2}					5	100	470	5	(9)	25	—	
	SCMP13WBC8W	White							2.9	5	100	(x,y)(0.30,0.30)	90	150	5	—	
	SMLP13WBC9W										(x,y)(0.29,0.28)	56	150		—		
	☆SML-P15UT(A)	Red	36	15	100 _{※2}	5	-40 to +85	-40 to +100	1.85	5	10	5	620	5	(80)	5	—
☆SML-P15DT(A)	Orange							1.95				604	56	(105)		—	
〈1608 型〉																	
	SML-E12UW	Red	62	25	60 _{※1}	5	-30 to +85	-40 to +85	2.1			624		36	100	—	
	SML-E12DW	Orange							1.9	20	10	5	606	20	56	200	20
	SML-E12V8W	Red										630		16	40	—	
	SML-E12U8W											620		25	63	—	
	SML-E12D8W	Orange	54									605	20	40	100	—	
	SML-E12Y8W	Yellow		20	100 _{※2}	5	-40 to +85	-40 to +100	2.2	20	10	5	590	25	63	20	
	SML-E12M8W	Yellowish-Green										572		10	25	—	
	SML-E12P8W	Green										560		2.5	6.3	—	
	SML-E13EC8T	Bluish-Green	68						3.0			527		56	120	—	
	SML-E13BC8T	Blue	66							5		470	5	14	40	5	
	SML-E13WBC8W	White	33	10	50 _{※2}				2.9	100		(x,y)(0.30,0.30)	56	120		—	
	SML-D11YW	Yellow	67	25	100 _{※2}	5	-40 to +85	-40 to +100	1.85	2	10	5	588	2	1.6	4.0	—
	SML-D12W8W(A)	Yellow	52	20		12	-40 to +100		2.0		12		587.5		4.5	7.1	2
	New SML-D12V1W	Red										630		25	40	—	
	New SML-D12U1W	Red										620		40	63	—	
	New SML-D12D1W	Orange	54	20	100 _{※2}	5	-40 to +85	-40 to +100	2.2	20	10	5	605	20	63	100	20
	New SML-D12Y1W	Yellow										590				—	
	New SML-D12M1W	Yellowish-Green										572		25	40	—	
	SML-D12V8W	Red										630		16	40	YES	
	SML-D12U8W	Red										625		25	63	YES	
	SML-D12D8W	Orange	54	20								605		40	100	YES	
	SML-D12Y8W	Yellow			100 _{※2}	5	-40 to +85	-40 to +100	2.2	20	10	5	590	25	63	20	YES
	SML-D12Y3W	Yellow										581		16	40	—	
	SML-D12M8W	Yellowish-Green										572		10	25	YES	
	SML-D12P8W	Green	67	25								560		2.5	6.3	YES	
	SML-D12FW	Green										564.5		14	18	—	
	SML-D13VW(A)	Red							2.0			630		35.5	55	YES	
	SML-D13UW(A)	Red	72						(2.0)			620		56	85	YES	
	SML-D13DW(A)	Orange		30								605		71	120	YES	
	SML-D13WV(A)	Yellow	75						(2.1)			587			110	YES	
	SML-D13MW(A)	Yellowish-Green			100 _{※2}	5	-40 to +100	-40 to +100	2.1	20	10	5	571	20	28	45	20
	SML-D13U8W	Red	52	20								620		40	70	—	
	SML-D13Y8W	Yellow	54						2.2			590		63	100	—	
	SML-D13Y2W	Yellow	78	30					(2.1)			581		40	80	—	
	SML-D13M8W	Yellowish-Green	54	20					2.2			572		16	40	—	
	SML-D13FW	Green	75	30					2.1			564		18	22	YES	
	SML-D14VW(A)	Red	72									630		71	100	YES	
	SML-D14U2W(A)	Red							2.0			615		90	160	YES	
	SML-D14DW(A)	Orange		30								605		112	200	YES	
	SML-D14YW(A)	Yellow	75	30	100 _{※2}	5	-40 to +100	-40 to +100	2.1	20	10	5	590	20	112	200	YES
	SML-D14WV(A)	Yellow										587		112	180	YES	
	SML-D14MW(A)	Yellowish-Green							(2.1)			571		35.5	60	YES	
	☆SML-D15VW	Red										630		(71)	(90)	YES	
	☆SML-D15UW	Red							(2.0)			620		(90)	(112)	YES	
	☆SML-D15U2W	Red	84									615		(112)	(140)	YES	
	☆SML-D15DW	Orange										605				YES	
	☆SML-D15YW	Yellow		35	100 _{※2}	5	-40 to +100	-40 to +100	2.1	20	(10)	5	590	20	(180)	(224)	20
	☆SML-D15WV	Yellow										587				YES	
	☆SML-D15MW	Yellowish-Green	87						(2.1)			571		(56)	(71)	YES	
	☆SML-D15PW	Green										560		(18)	(22.4)	YES	
〈20125 型〉																	
	SML-H12V8T	Red										630		16	25	YES	
	SML-H12U8T											620		25	40	YES	
	SML-H12D8T	Orange	54	20	100 _{※2}	5	-40 to +85	-40 to +100	2.2	20	10	5	605	20	40	63	20
	SML-H12Y8T	Yellow										590				YES	
	SML-H12M8T	Yellowish-Green										572		10	25	YES	
	SML-H12P8T	Green										560		2.5	4.0	YES	
																YES	

※1:Duty 1/5, 200Hz ※2:Duty 1/10, 1kHz

※关于白色,用色度坐标(x,y)标记。

注)PicoLED®是罗姆株式会社的注册商标。

注)车载适用品(AEC Q101)为带(C)编号。

()…参考值 ☆:开发中

高亮度LED数字显示器

拥有高亮度、低功耗和高可靠性。

高亮度LED数字显示器															
Shape	Part No.	Emitting color	Absolute Maximum Ratings(Ta=25°C)				Absolute Maximum Ratings		Electrical and optical characteristics(Ta=25°C)						
			Power Dissipation P _D (mW)	Forward Current I _F (mA)	Peak Forward Current I _{FP} (mA)	Reverse Voltage V _R (V)	Operating Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)	Forward voltage V _F		Reverse current I _R		Light wavelength		
									Typ. (V)	I _F (mA)	Max. (μA)	V _R (V)	Peak λ _P (nm)	Half-wave λ _H (nm)	Forward current I _F (mA)
	LAP-301VB/VL	Red											650		14
	LAP-301MB/ML	Green	448	20	60	5	-25 to +75	-30 to +85	1.9	10	100	3	572	20	36
	LAP-301DB/DL	Orange											605		56
	LAP-301YB/YL	Yellow											590		90
	LAP-401VD/VN	Red											650		14
	LAP-401MD/MN	Green	448	20	60	5	-25 to +75	-30 to +85	1.9	10	100	3	572	20	36
	LAP-401DD/DN	Orange											605		56
	LAP-401YD/YN	Yellow											590		90
	LAP-601VB/VL	Red											650		14
	LAP-601MB/ML	Green	448	20	60	5	-25 to +75	-30 to +85	1.9	10	100	3	572	20	36
	LAP-601DB/DL	Orange											605		56
	LAP-601YB/YL	Yellow											590		90
	LBP-602VA2/VK2	Red											650		14
	LBP-602MA2/MK2	Green	896	20	60	5	-25 to +75	-30 to +85	1.9	10	100	3	572	20	36
	LBP-602DA2/DK2	Orange											605		56
	LBP-602YA2/YK2	Yellow											590		90

注) ※I_{FP}的条件为duty ≤ 1/5, Pulse width ≤ 1ms

透过型光电断路器

线性光电晶体管输出							
Package	Part No.	Standard characteristics					
		Detection groove width(mm)	Slit width(mm)	I _C (mA)	V _{CE} (V)	I _F (mA)	tr, tf(μs)
Ultraminiature SMD type	RPI-0125	1.2	0.3	0.45Min. / 4.95Max.	5	20	10
Miniature SMD type	RPI-0226	2.0	0.3	0.1Min.	5	5	50
Ultra-Compact type	RPI-122	0.8	0.25	0.18Min. / 1.08Max.	0.7	3	10
	RPI-121	0.8	0.4	0.7Min.	5	20	10
	RPI-125	1.2	0.3	0.45Min. / 4.95Max.	5	20	10
Compact type	RPI-221	2.3	0.4	0.2Min.	5	20	10
	RPI-222	2.0	0.2	0.18Min. / 0.95Max.	5	10	10
	RPI-243	2.0	0.4	0.5Min.	5	20	10
	RPI-246	2.0	0.2	0.35Min. / 1.2Max.	5	20	10
	RPI-352	3.0	0.4	0.2Min.	5	20	10
	RPI-441C1	4.0	0.5	0.2Min.	5	20	10
Eco-Friendly type	RPI-0352E	3.0	0.4	0.18Min.	5	10	10
	RPI-352E	3.0	0.4	0.2Min.	5	10	10
	RPI-441C1E	4.0	0.5	0.2Min.	5	10	10
	RPI-0441E	4.5	0.5	0.16Min.	5	10	10

反射型光电传感器

光反射型							
Package	Part No.	Standard characteristics					
		LEDλ _P (nm)	PTrλ _P (nm)	I _C (mA)	V _{CE} (V)	I _F (mA)	tr, tf(μs)
Case type	RPR-220	940	800	0.08Min. / 0.8Max.	2	10	10
	RPR-220UC30N	630	800	0.08Min. / 0.8Max.	5	10	10
	RPR-220PC30N	470	800	0.08Min. / 0.8Max.	5	10	10

DC/DC转换器

- 高效率
能量转化系数高 (85~93%) 有助于设计小型节能电源装置。
 - 更少的外接部件
外接部件仅有2个电容器, 简化了电路结构。
 - 内部输出开关
有助于设计人员充分利用节能特性。
 - 输出电压范围广泛
可与非稳压主输电线配合使用
(BP5297-50 : 8~36V)
 - 用途广泛
用途包括: 输出开关, 保护电路, 输出稳压器等等。
 - 占用面积小
SIP封装需要很小的安装面积。(占用面积: 65mm²)
- ※因为个别产品无上述特性, 请详细确认。

3引脚降压DC/DC转换器(非绝缘型)						
Part No.	Input voltage(V)	Output voltage(V)	Output current(mA)	Output voltage accuracy(%)	Dimensions(mm)	Package*
☆ BP5293-33	7 to 26	+3.3	1000	±3.0%	17.0×17.8×7.2	SIP3
New BP5293-50	7 to 26	+5.0	1000	±2.0%	17.0×17.8×7.2	SIP3
☆ BP5293-12	17 to 26	+12.0	1000	±5.0%	17.0×17.8×7.2	SIP3

内置输入输出电容器、电感等, 因此不需要外置元器件即可构成电源电路。与3引脚LDO引脚兼容, 因此不需要变更电路板即可替换。☆: 开发中

* 使用独创的电源模块封装

特定小功率无线模块

- 920MHz频段 特定小功率无线模块
- 业界顶级接收灵敏度
- 内置天线无需高频设计
- 发送功率已调整完毕
- MAC地址已写入完毕
- 已取得日本国内电波法认证

特定小功率无线模块							
Part No.	Supply Voltage(V)	Operating Temperature(°C)	Host/IF	Terminal standards	Onboard System IC	Dimensions(mm)	Package
BP3596A	2.7 to 3.6V (Single power)	-30 to +80	SPI/DIO	IEEE802.15.4g	ML7396B (LAPIS Semiconductor Co., Ltd.)	22.0×34.7×3.5	Connector joint type 0.4mm pitch, 20pin
New BP35A1	2.7 to 3.6V (Single power)	-20 to +80	UART	Wi-SUN	ML7396B (LAPIS Semiconductor Co., Ltd.)	22.0×33.5×4.0	Connector joint type 0.5mm pitch, 20pin

物流、食品标签用: DC72系列

■特性

用于工业设备领域的高级条形码打印机等的最佳热敏打印头。DC72备有罗姆独创的历史控制功能, 支持12ips的高速打印。

■应用

最适合用于需要进行24小时工作和长时间连续打印的工厂装配流水线和物流中心等的条形码打印机和标签打印机。

物流、食品标签用: DC72系列												
Part No.	Resolutions (dpi)	Logic Voltage (V)	Print Width (mm)	Number of dot (dots)	Resistance Tolerance (Ω)	Platen Diameter Max. (mm)	Print Speed (mm/s)	Supply Voltage (V)	Heat Sink	Abrasion Life (km)	Pulse Life [×1 million] (pulses)	Historical control
KD2002-DC72A	203	4.75 to 5.25	56	448	550	20.0	100 to 300	24	Yes	150	100	Yes
KD2003-DC72A	203	4.75 to 5.25	80	640	550	20.0	100 to 300	24	Yes	150	100	Yes
KD2004-DC72A	203	4.75 to 5.25	104	832	550	20.0	100 to 300	24	Yes	150	100	Yes
KD2006-DC72A	203	4.75 to 5.25	168	1,344	650	20.0	100 to 300	24	Yes	150	100	Yes
KD3002-DC72A	300	4.75 to 5.25	54.2	640	1,250	20.0	100 to 250	24	Yes	150	100	Yes
KD3003-DC72A	300	4.75 to 5.25	81.3	960	1,250	20.0	100 to 250	24	Yes	150	100	Yes
KD3004-DC72A	300	4.75 to 5.25	108.4	1,280	1,250	20.0	100 to 250	24	Yes	150	100	Yes
KD3006-DC72A	300	4.75 to 5.25	162.6	1,920	1,250	20.0	100 to 250	24	Yes	150	100	Yes

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搜索



罗姆

工业设备用产品特设页

INDUSTRIAL

ROHM supports further innovations in industrial equipment through high quality, high reliability and stable long-term supply

ROHM offers a broad lineup ranging from passive and discrete devices to ICs and modules that makes it possible to respond to requirements at the system level. And the ROHM Group will continue to leverage its strengths to provide optimized solutions tailored to customer sets.

Industrial Systems

- Factory Automation**: ROHM supports demands in devices for the FA market, "energy saving", "miniaturization", "speeding up" and "miniaturization" with various new technologies.
- Power Supply**: ROHM's power devices contribute to "energy saving", "miniaturization" and "noise reduction" of power supply units.
- Energy Management System**: ROHM proposes optimized devices to EMS such as HEMS, BEMS and FEMS at a system level.
- All Industry**: A wide range of product lineup including ICs, discrete semiconductors, electronic parts and modules meets versatile needs in the industrial equipment systems.

Applications

Industrial

- AC Servo
- Brushed Motor
- Brushless Motor
- Embedded PC
- GFCI (Ground Fault Circuit Interrupter)
- PLC (Programmable Logic Controller)
- Machine Vision Camera for Industrial
- Portable Data Terminal
- Single Board Computer
- Digital Multimeter, Handly Type
- Digital Multi Meter, Bench Type
- Coin Processing Machines
- Barcode Scanner
- POS (Point of Sales System)
- Stepper Motor

Security

- Fingerprint Authentication Device
- Network Attached Storage
- Intercom / Baby Monitor
- X-ray Inspection Machine for Security
- DVR/DVS
- Surveillance Camera
- Surveillance Camera for IP Network

Energy

- Electric Bike
- Display for EMS
- Smart Meter
- Solar Power Inverters

News

- 2015.12.15 New 1608-Sized High Brightness Single Die Chip LEDs
- 2015.11.30 ROHM Expands Its Full SiC Power Module Lineup
- 2015.10.27 Ultra-High-Efficiency 76V DC/DC Buck Converter
- 2015.7.23 ROHM Semiconductor Acquires Patents

Catalog **Video**

种类丰富的产品阵容

从IC到分立、模块，我们为工业设备制造商准备了丰富的适用产品，您可通过网络迅速下单。

SWITCHING REGULATORS (INTEGRATED FET)

ROHM's switching regulator series DC-DC converter are available with or without integrated FET (discrete MOSFETs) and their origin. ROHM's high efficiency power supply converters for broad compatibility.

Filter

RoHS: ☐ Lead-free: ☐ AEC-Q100: ☐ ...

支持各种各样的应用

客户可从FA、能源、安全等各种领域的应用框图中选择所需要的产品。

AC Servo

ROHM's AC Servo system is a complete solution for industrial automation. It includes a high-performance AC Servo, a motor, and various control units. The system is designed for high precision and high reliability.

Filter

RoHS: ☐ Lead-free: ☐ AEC-Q100: ☐ ...

丰富的各种技术资料

还备有数据表和操作说明书等技术资料和评估板。

Capacitor Calculation

ROHM's capacitor calculation tool helps you to select the right capacitor for your application. It includes a detailed calculation process and a table of results.

Technical Documents

- Capacitor Calculation
- Thermal Resistance
- The Important Points of Multi-layer Ceramic Capacitor Used in Buck Converter Circuit

其他信息

· 还提供技术相关咨询、各种环境数据、特性数据等

www.rohm.com.cn

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 东京 福岡 水戸 高崎
 横浜 西东京 宇都宫

● 生产网点

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 ROHM Wako Co., Ltd. LAPIS Semiconductor Miyazaki Co., Ltd.
 ROHM Apollo Co., Ltd. AGLED Co., Ltd.
 ROHM Mechatech Co., Ltd.

● 开发网点

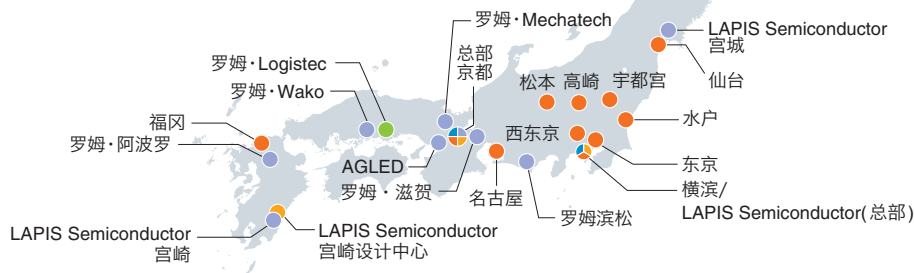
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 Kyoto Technology Center (Kyoto Ekimae)
 Yokohama Technology Center
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 LAPIS Semiconductor Miyazaki Design Center

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ROHM Logistec Co., Ltd.

● QA中心

Kyoto QA Center
 Yokohama QA Center



● 销售网点
 ● 生产网点
 ● 开发网点
 ● 物流网点
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ROHM Co., Ltd.

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 总部所在地 : 邮编 615-8585 京都市右京区西院溝崎町21
 TEL (075)311-2121 FAX (075)315-0172
 成立年月日 : 1958(昭和33)年9月17日
 代表 : 董事长 泽村 谕



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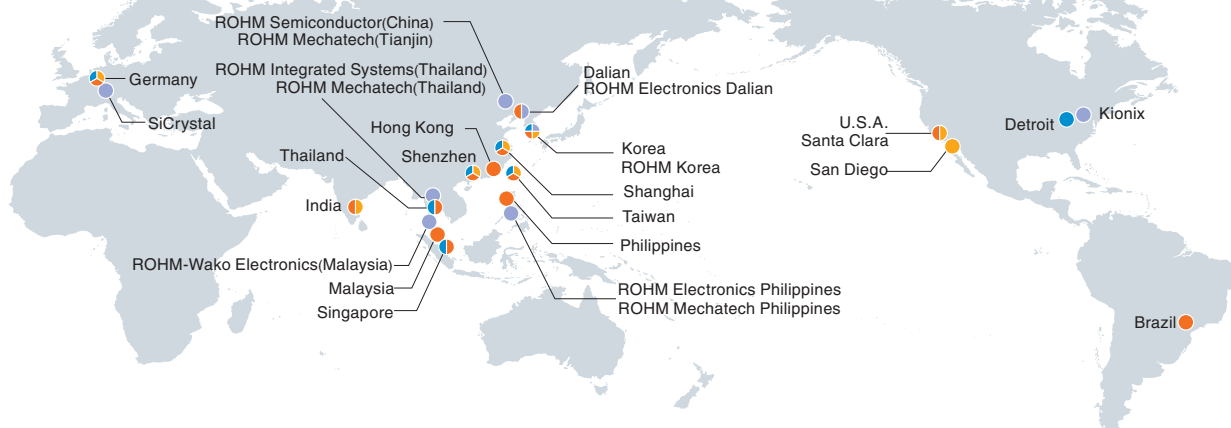
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ASIA Korea Design Center
 Shanghai Design Center
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 Taiwan Design Center
 India Design Center
 AMERICA America Design Center (Santa Clara)
 America Design Center (San Diego)
 EUROPE Europe Design Center

● QA中心

ASIA Korea QA Center
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 Thailand QA Center
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 EUROPE Europe QA Center

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