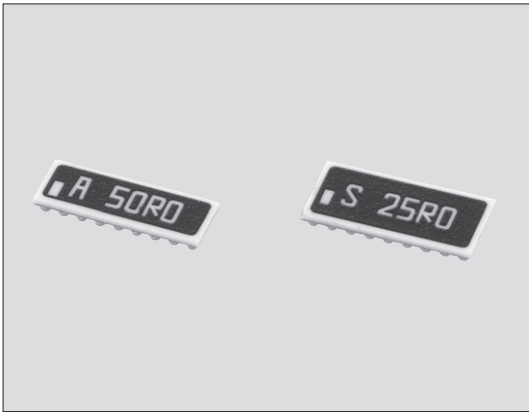
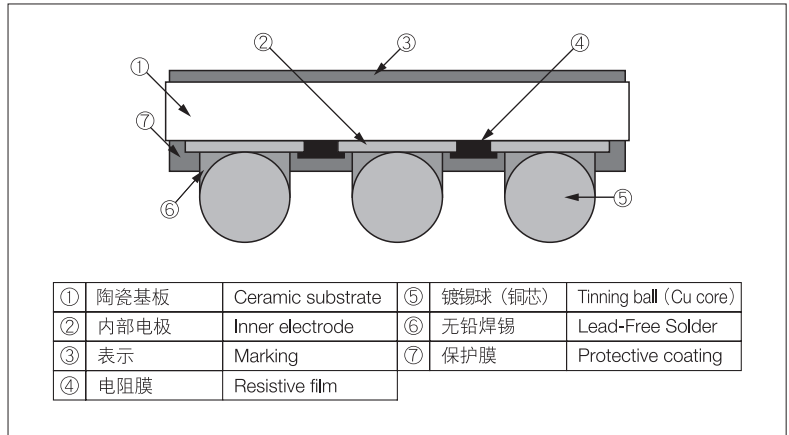


## BR BGA网络电阻器 BGA Resistor Networks



外观颜色: 黑色 显示色: 白色文字  
Coating color: Black Marking Color: White(cutout)

### ■ 结构图 Construction



### ■ 特点 Features

- 此BGA封装电阻网络装置实际上消除了沟道电容, 沟道电容是造成系统功能减弱的一个主要原因。
- 该装置使DDR SDRAM终端的路由设计变得更加简便。
- 电阻器的元件更加集成化, 节省了组装成本。
- 无铅端子。
- 高精度:  $\pm 1\%$ 标准。
- BGA封装在节省线路板空间上及高密度安装方面十分有效。
- 对应欧盟RoHS。电极、电阻膜层、玻璃中所含铅玻璃, 不包含在欧盟RoHS指令中。
- This BGA packaging resistor network device virtually eliminates channel capacitance, a primary cause of reduced system performance.
- This device eases routing design of DDR SDRAM termination.
- Higher integration of resistor elements saves overall assembly costs.
- Lead free terminal.
- High precision  $\pm 1\%$  is standard.
- BGA packaging is effective in a saving of the board space and high density mounting.
- Products meet EU-RoHS requirements. EU-RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.

### ■ 品名构成 Type Designation

实例 Example

BR	27	A	P	T	TEB	1000	F
品种 Product Code	端子数 Number of Terminals	电路 Circuit Symbol	端子间隔 Terminal Pitch	端子表面材质 Terminal Surface Material	二次加工 Taping	公称电阻值 Nominal Resistance	阻值允许偏差 Resistance Tolerance
	27:27端子 :27 Terminal	A:平行网络 :Parallel network	P:1mm	T:Sn	TEB:8mm pitch plastic embossed	F:4 digits	F: $\pm 1\%$
	36:36端子 :36 Terminal	S:单行 :Separate					

预知关于此产品含有的环境负荷物质详情 (除EU-RoHS以外), 请与我们联系。  
编带细节请参考卷末附录C。

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

For further information on taping, please refer to APPENDIX C on the back pages.

### ■ 参考规格 Reference Standards

MIL-STD-202F  
IEC 60115-1  
JIS C 5201-1

### ■ 用途 Applications

- 用于DDR SDRAM的终端, 高速数字电路。
- DDR SDRAM Terminator, High Speed digital circuit.

### ■ 额定值 Ratings

型号 Type	端子数 Number of Terminals	电路记号 Circuit Symbol	额定功率 Power Rating (W/Element)	电阻值范围 (E24) Resistance Range ( $\Omega$ )	电阻温度系数 T.C.R. ( $\times 10^{-6}/K$ )	最高使用电压 Max. Working Voltage	最高过载电压 Max. Overload Voltage	编带和包装数/卷 Taping & Q'ty /Reel (pcs)
				F: $\pm 1\%$				TEB
BR	27	A	0.05 <sup>*1</sup>	10~1k	$\pm 200$	25V	50V	4,000
	36	S						

额定环境温度 Rated Ambient Temperature:  $+70^{\circ}\text{C}$

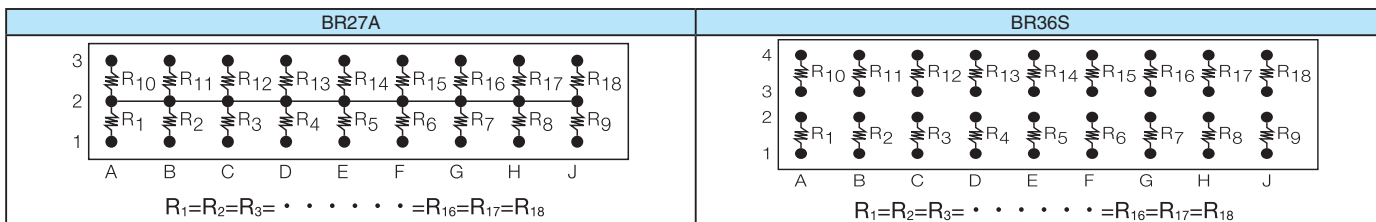
使用温度范围 Operating Temperature Range:  $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$

\*1 每组件1.0W 1.0W per package

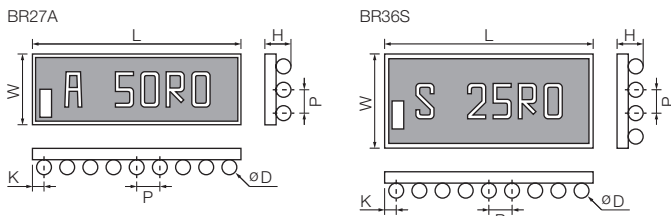
额定电压是 $\sqrt{\text{额定功率} \times \text{公称电阻值}}$ 所算出的值或表中最高使用电压两者中小的值为额定电压。

Rated voltage =  $\sqrt{\text{Power Rating} \times \text{Resistance value}}$  or Max. working voltage, whichever is lower.

## ■ 电路构成 Circuit Construction

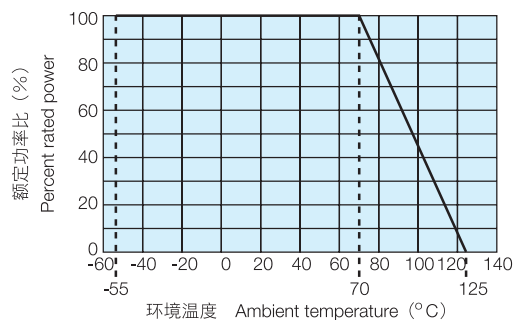


## ■ 外形尺寸 Dimensions



型号 Type	尺寸 Dimensions (mm)						
	P±0.25	φD±0.05	K±0.25	H±0.15	L±0.15	W±0.15	Coplanarity
BR27A	1.00	0.67	0.50	1.15	9.00	3.00	0.15 Max.
BR36S						4.00	

## ■ 负荷特性曲线 Derating Curve



在环境温度70℃以上使用时，应按照上图负荷特性曲线，减小额定功率。

For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

## ■ 性能 Performance

试验项目 Test Items	标准值 Performance Requirements	试验方法 Test Methods
	ΔR±% 保证值 Limit	
电阻值 Resistance	在规定的允许偏差内 Within specified tolerance	25°C
电阻温度系数 T.C.R.	在规定的允许偏差内 Within specified T.C.R.	+25°C/-55°C and +25°C/+125°C
过载 (短时间) Overload (Short time)	0.5	额定电压×2.5倍施加5秒钟 Rated voltage × 2.5 for 5s
耐焊接热 Resistance to soldering heat	0.5	250°C±5°C, 30秒, 3次 250°C±5°C 30s, 3 times
温度突变 Rapid change of temperature	0.5	-65°C (30min.) / +125°C (30min.) 5 cycles
耐湿负荷 Moisture resistance	1	85°C、85%±5%RH, Power rating×1/10, 1000h
在70℃时的耐久性 Endurance at 70°C	1	70°C, Full load 2000h 1.5小时ON、0.5小时OFF的周期 1.5h ON/0.5h OFF cycle
低温放置 Low temperature exposure	0.5	-65°C, 24h
高温放置 High temperature exposure	1	+125°C、1000h

## ■ 应用范例 Examples For Circuit Board Application

