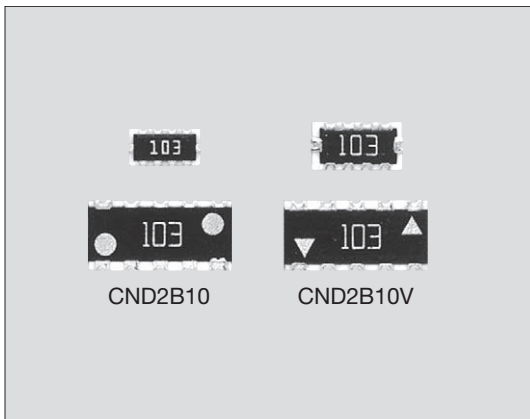


## CND 网络电阻器 (贴片) Chip Networks (Concave Termination)

网络电阻器  
Network Resistors



外观颜色: 黑色 Coating color: Black

### 特点 Features

- 比贴片电阻具有更高的安装密度。
- 部件安装次数的减少降低了安装成本。
- 在回流焊接时具有更好的自定位效果。
- 安装时易于进行图像识别。
- 适用于回流焊接和波峰焊。
- 用于推挽电阻时, 可以将元件8联装。
- 端子无铅电镀品, 符合欧盟RoHS。电极、电阻膜层、玻璃中所含的铅玻璃不适用欧盟RoHS指令。
- More advancement in the mounting density than individual chip resistors.
- Mounting cost reduction by decreasing the number of parts mounting times.
- Higher self-alignment effect in reflow-soldering process.
- Suitable for an image recognition mounter due to square corner design.
- Suitable for both reflow and flow solderings.
- Integrated 8 elements for Pull-up/Pull-down.
- Products with lead free termination meet EU-RoHS requirements. EU-RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.

### 参考标准 Reference Standards

IEC 60115-1  
JIS C 5201-1

### 额定值 Ratings

型号 Type	额定功率 Power Rating (W/Element)	电阻值范围 Resistance Range (Ω) E12	阻值允许偏差 Resistance Tolerance	电阻温度系数 T.C.R. (×10 <sup>-6</sup> /K)	最高使用电压 Max. Working Voltage	最高过载电压 Max. Overload Voltage	额定周围温度 Max. Overload Voltage	使用温度范围 Max. Overload Voltage	编带和包装数/卷 Taping & Qty /Reel (pcs)	
									TD	TE
CND2B10	0.063	100~100k	J: ±5%	±200	50V	100V	+70°C	-55°C~+125°C	-	4,000
CND1J10Y	0.05	22~39k			25V	50V			5,000	-
CND2A10Y	0.063	100~100k			-	-			4,000	-

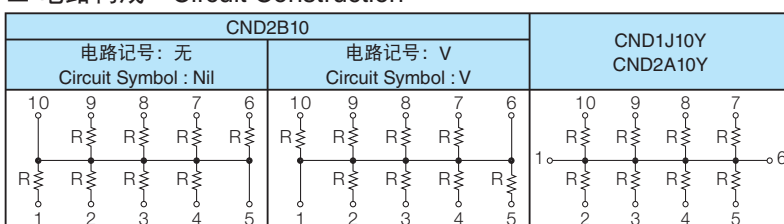
按照额定功率使用时, 比单一的贴片电阻的发热温度高, 在使用时请加以注意。

Please note that network resistors generate higher heat rather than single flat chip resistor even under rated power output.

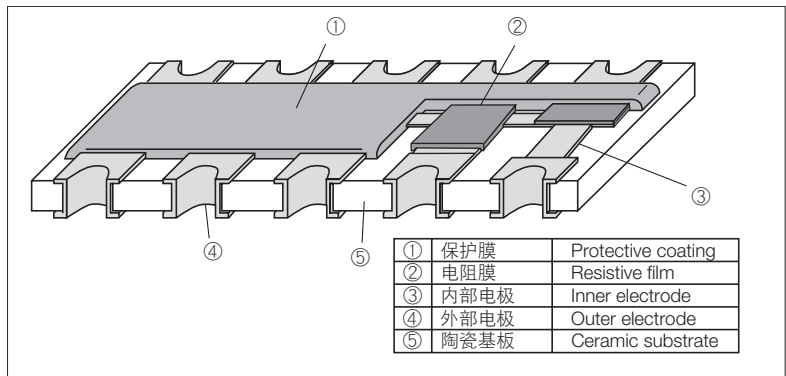
额定电压是√额定功率×公称电阻值所算出的值或表中最高使用电压两者中小的值为额定电压。

Rated voltage = √Power Rating × Resistance value or Max. working voltage, whichever is lower.

### 电路构成 Circuit Construction



### 结构图 Construction



### 品名构成 Type Designation

实例 Example

品种 Product Code	形状 Size	端子数 Number of Termination	电路记号 Circuit Symbol	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
CND	1J 2A 2B	10	空栏: 标准共用电极 Nil: Standard common electrode V: 逆共用电极 V: Reverse common electrode Y: 横共用电极 Y: Side common electrode	T: Sn (L: Sn/Pb)	TD: Paper TE: Plastic embossed BK: Bulk	3 digits	J: ±5%

端子表面材质, 以无铅品为准。

欲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。

The terminal surface material lead free is standard.

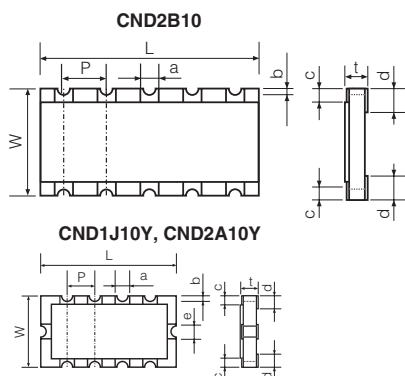
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

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

### 用途 Applications

- 用于数字电路的推挽电阻。
- Resistors for Pull-up/Pull-down resistor for digital circuits.

## ■ 外形尺寸 Dimensions



型号 Type	尺寸 Dimensions (mm)										Weight (g) (1000pcs)
	L	W	c	d	e	t±0.1	a (Top)	a (Bottom)	b	P	
CND2B10	6.4±0.2	3.1±0.2	0.35±0.15	0.55±0.15	—	0.6	0.6±0.1	0.6±0.15	0.15±0.1	(1.27)	38.6
CND1J10Y	3.2±0.15	1.6±0.15	0.2±0.1	0.35±0.1	0.4±0.15	0.55	0.33±0.15	0.3±0.1	(0.1)	(0.635)	10.0
CND2A10Y	4.0±0.2	2.1±0.2	0.25±0.20	0.4±0.2	0.5±0.2	0.6	0.5±0.2	0.4±0.15	0.15±0.1	(0.8)	16.0

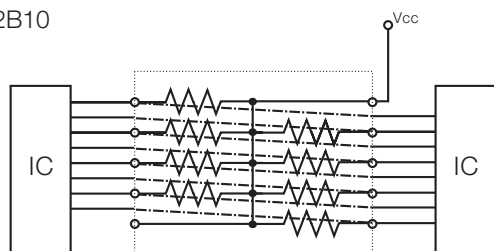
( ) 内的数值作为参考。 Figures in parenthesis are referential values.

## ■ 性能 Performance

试验项目 Test Items	标准值 Performance Requirements ΔR±%		试验方法 Test Methods
	保证值 Limit	代表值 Typical	
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.	在规定的值以内 Within specified T.C.R.		+25°C/-55°C and +25°C/+125°C
过载 (短时间) Overload (Short time)	2	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	1	0.25	260°C±5°C, 10s±1s
温度突变 Rapid change of temperature	1	0.25	-55°C (30min.) /+125°C (30min.) 5 cycles
耐湿负荷 Moisture resistance	5	1	40°C±2°C, 90%~95%RH, 1000h 1.5小时ON、0.5小时OFF的周期 1.5h ON/0.5h OFF cycle
在70°C时的耐久性 Endurance at 70°C	5	1	70°C±2°C, 1000h 1.5小时ON、0.5小时OFF的周期 1.5h ON/0.5h OFF cycle
高温放置 High temperature exposure	1	0.2	+125°C, 100h

## ■ 应用范例 Examples For Circuit Board Application

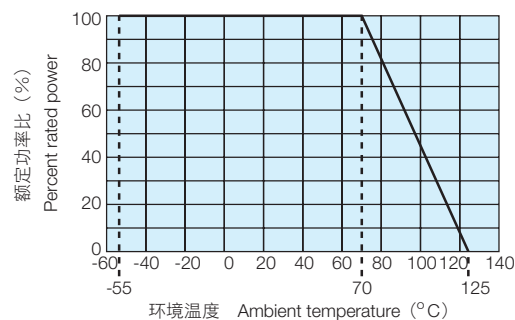
CND2B10



## ■ 使用注意事项 Precautions for Use

- 网络电阻器偶尔会发生串扰的情况，当把它们用于高频电路时，在电路设计时请考虑串扰的影响。
- A few cross talks will occur in network resistors. In case of using them for a high frequency circuit, please design circuits taking the effect by the cross talks into consideration.

## ■ 负荷减轻特性曲线 Derating Curve



在环境温度70°C以上使用时，应按照上图负荷减轻特性曲线，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.