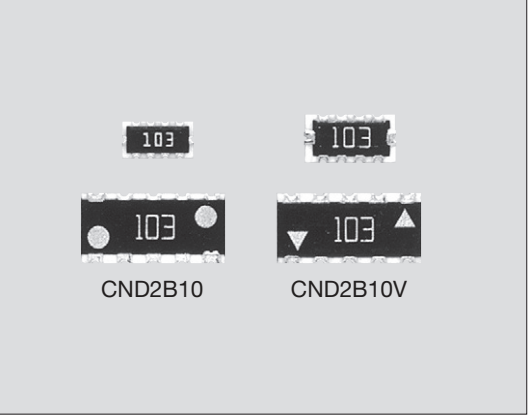


CND 片式网络电阻器
Chip Networks (Concave Termination)



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接。
- 用于推挽电阻时，可以将元件8联装。
- 端子无铅品，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。
- 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. ($\times 10^{-6}/K$)	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 & Q'ty /Reel (pcs)	
									TD	TE
CND2B10	0.063	100~100k	J: $\pm 5\%$	± 200	50V	100V	+70 $^{\circ}C$	-55 $^{\circ}C \sim +125^{\circ}C$	-	4,000
CND1J10Y	0.05	22~39k			25V	50V			5,000	-
CND2A10Y	0.063	100~100k							-	4,000

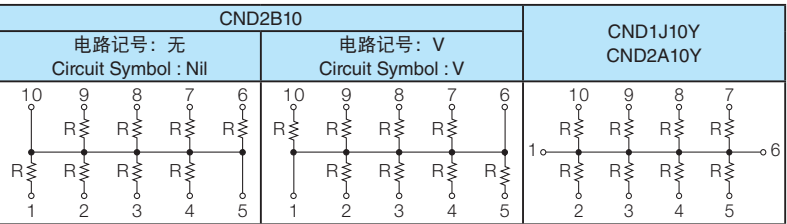
按照额定功率使用时，比单一的贴片电阻的发热温度高，在使用时请加以注意。

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

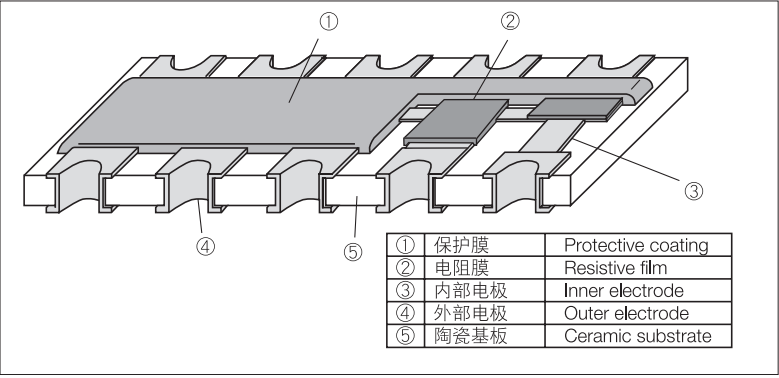
额定电压是 $\sqrt{\text{额定功率} \times \text{公称电阻值}}$ 所算出的值或表中最高使用电压两者中小的值为额定电压。

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

电路构成 Circuit Construction



结构图 Construction



品名构成 Type Designation

实例 Example

CND	2B	10	V	T	TE	103	J
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
	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: 横电极 Y: Side electrode type	T: Sn (L: Sn/Pb)	TD: Paper TE: Plastic embossed BK: Bulk	3 digits	J: $\pm 5\%$

端子表面材质，以无铅品为准。

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。

The terminal surface material lead free is standard.

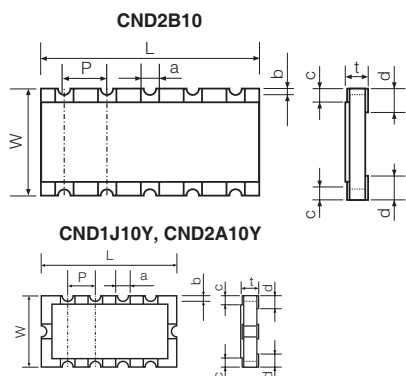
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

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)
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	0.55	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	0.6	0.5±0.2	0.4±0.15	0.15±0.1	(0.8)	16.0

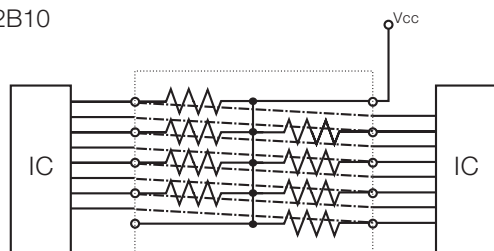
() 内的数值作为参考。 Figures in parenthesis are referential values.

性能 Performance

试验项目 Test Items	标准值 Performance Requirements $\Delta R \pm \%$		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
低温放置 Low temperature exposure	1	0.2	-55°C, 1h
高温放置 High temperature exposure	1	0.2	+125°C, 100h

应用范例 Examples For Circuit Board Application

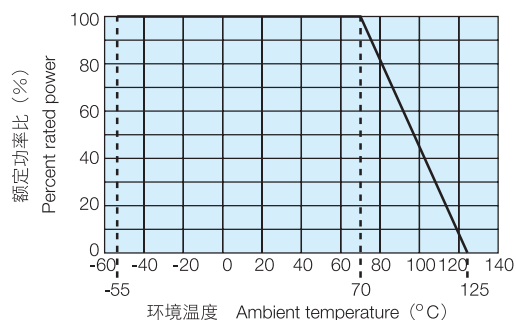
CND2B10



使用注意事项 Precautions for Use

- 网络电阻器偶尔会发生Cross Talk的情况，当把它们用于高频电路时，在电路设计时请考虑Cross Talk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.