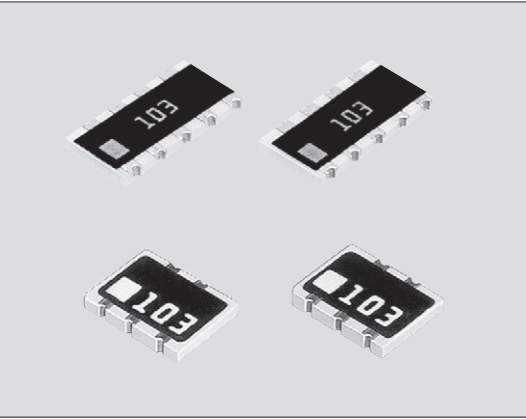


CNB片式网络电阻器
Chip Networks (Concave Termination)



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。
- 提高了回流焊接时候的自定位效果。
- 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4联装或者8联装。
- 易于使用Zigzag Electrode来进行印刷电路板布置。
- 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 reflow soldering.
- 4 or 8 elements are integrated for Pull-up/Pull-down.
- Easy to make a PWB layout with a zigzag electrode.
- 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) E3	阻值允许偏差 Resistance Tolerance	电阻温度系数 T.C.R. (×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. Ambient Voltage	使用温度范围 Max. Operating Voltage	编带和包装数/卷 Taping & Q'ty /Reel (pcs)
CNB2B9Z	0.063	1k~470k	J: ±5%	±200	50V	100V	+70℃	-55℃~+125℃	TE
CNB2E5Z									4,000

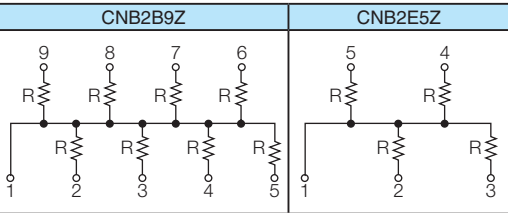
按照额定功率使用时，比单一的贴片电阻的发热温度高，在使用时请加以注意。

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

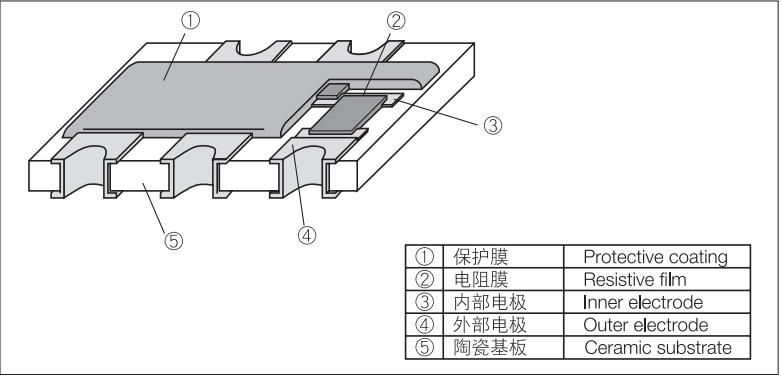
额定电压是√额定功率×公称电阻值所算出的值或表中最高使用电压两者中小的值为额定电压。

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

CNB	2B	9	Z	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
	2B 2E	9 5	Z:与#1端子有共用 电极，端子配置成 Zigzag形式的并联 电路 Z:A parallel circuit with staggered terminals and a common electrode on #1 terminal	T:Sn (L:Sn/Pb)	TE:Plastic embossed BK:Bulk	3 digits	J:±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.

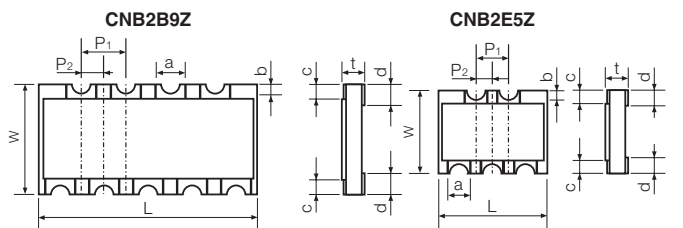
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

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 for digital circuits

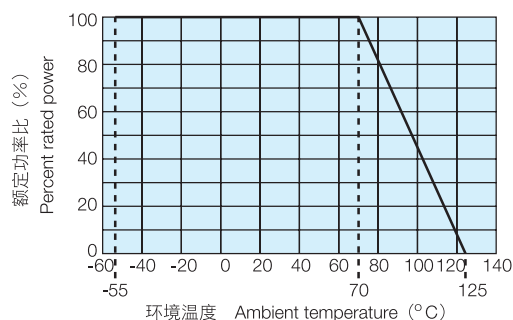
■ 外形尺寸 Dimensions



型号 Type	尺寸 Dimensions (mm)										Weight (g) (1000pcs)
	L±0.2	W±0.2	c	d±0.15	t±0.1	a (Top)	a (Bottom)	P ₁ ±0.1	P ₂ ±0.1	P	
CNB2B9Z	6.4	3.2	(0.45)	0.6	0.6	(0.85)	0.6±0.1	1.3	0.65	(0.15)	38.6
CNB2E5Z	3.2	2.5	(0.3)	0.5	0.6	(0.65)	0.55±0.10	1.0	0.5	(0.15)	15.3

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

■ 负荷特性曲线 Derating Curve



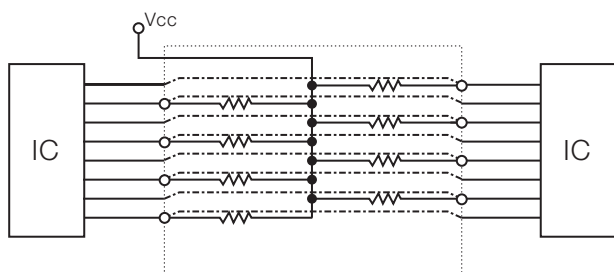
在环境温度70℃以上使用时，应按照上图负荷特性曲线，减小额定功率。

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 $\Delta R \pm \%$	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)	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	0.1 -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℃时的耐久性 Endurance at 70°C	5	0.5 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



■ 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 happen in network resistors. Design the circuit taking the effect by the cross talks into consideration as very low voltage will occur to the resistor elements that don't pass current by the voltage drop in common electrode if current flows to the common electrodes.