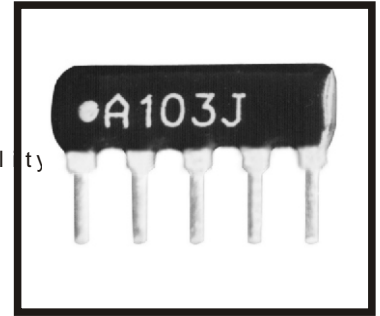


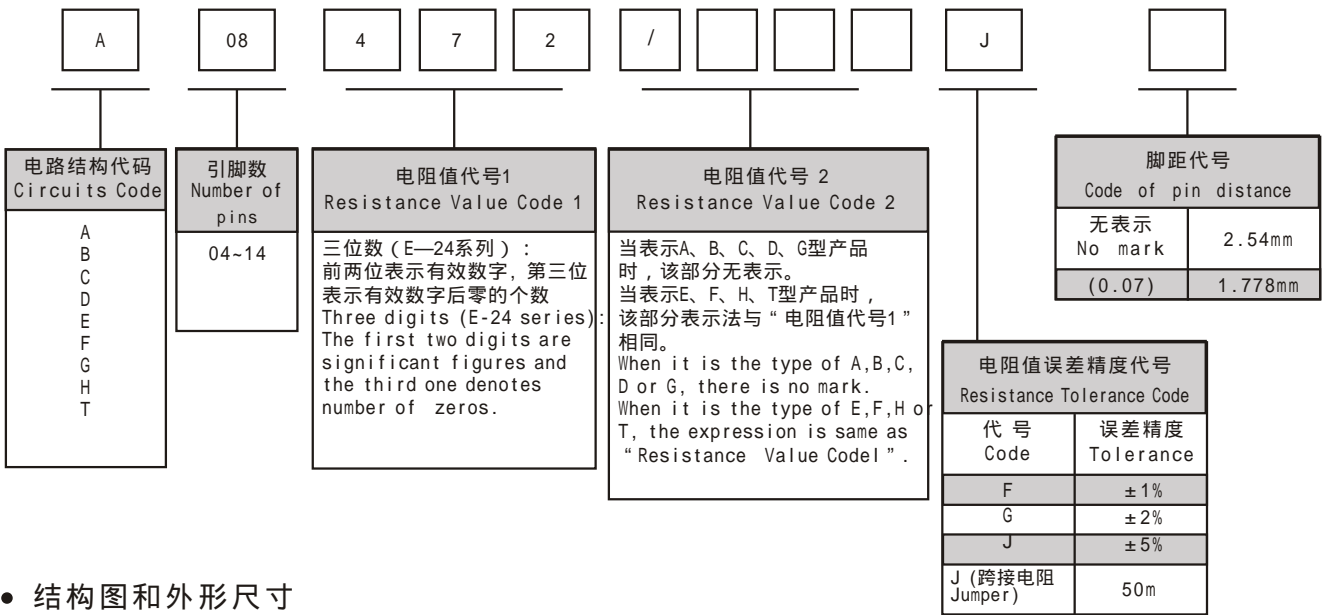
■ 厚膜网络电阻器
THICK FILM NETWORK RESISTOR

● 特性 FEATURES

- * 小型化、高密度组装
- * 电性能稳定，可靠性高
- * 可得到不同电阻值组合
- Miniature, high density assembly.
- Stable electrical capability, high reliability
- Combinations of different ohmic value are available



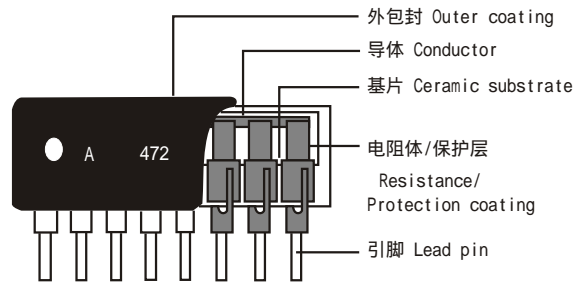
● 订货方式 HOW TO ORDER



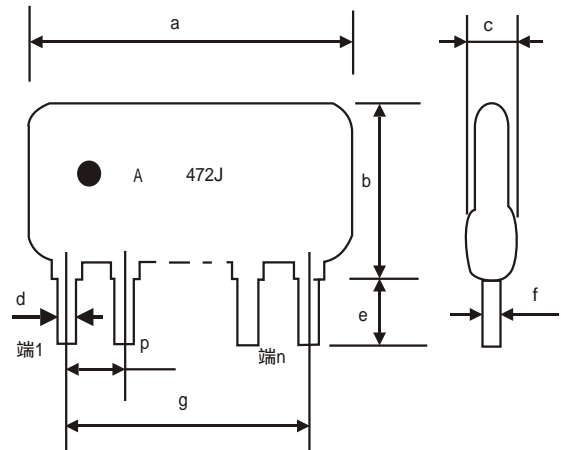
● 结构图和外形尺寸
CONSTRUCTION AND DIMENSIONS

单位 unit:mm

代号 Code	常规尺寸 Normal dimension		特殊尺寸 Special dimension	
a	2.54 × (n-1) + 2.5max		1.778 × (n-1) + 1.5max	
b	A、B、C、D、E、F、G、H型 Type	5.08max	A、B、C、D、E、F、G、H型 Type	5.08max
	T型 Type	8.50max	T型 Type	8.50max
c	3.00max		3.00max	
d	0.50 ± 0.1		0.50 ± 0.1	
e	3.50 ± 0.5		3.50 ± 0.5	
f	0.25 ± 0.1		0.30 ± 0.1	
g	2.54 × (n-1) ± 0.3		1.778 × (n-1) ± 0.3	
p	2.54 ± 0.1		1.778 ± 0.1	



注: 白色点标记为第一脚
Note: The white dot means the first pin.





• 等效电路 EQUIVALENT CIRCUIT

型号 Type	等效电路 Equivalent Circuit	型号 Type	等效电路 Equivalent Circuit
A	<p style="text-align: center;">$R_1=R_2=\dots=R_n$</p>	B	<p style="text-align: center;">$R_1=R_2=\dots=R_n$</p>
C	<p style="text-align: center;">$R_1=R_2=\dots=R_n$</p>	D	<p style="text-align: center;">$R_1=R_2=\dots=R_n$</p>
E	<p style="text-align: center;">$R_1=R_2$或R_1, R_2</p>	F	<p style="text-align: center;">$R_1=R_2$或R_1, R_2</p>
G	<p style="text-align: center;">$R_1=R_2=\dots=R_n$</p>	H	<p style="text-align: center;">$R_1=R_2$或R_1, R_2</p>
T	<p style="text-align: center;">$R_1=R_2$或R_1, R_2</p>		

• 参考标准 REFERENCE STANDARD

- GB/T 5729-94
- GB 7338-87
- JIS C 5202-1985

THICK FILM NETWORK RESISTOR

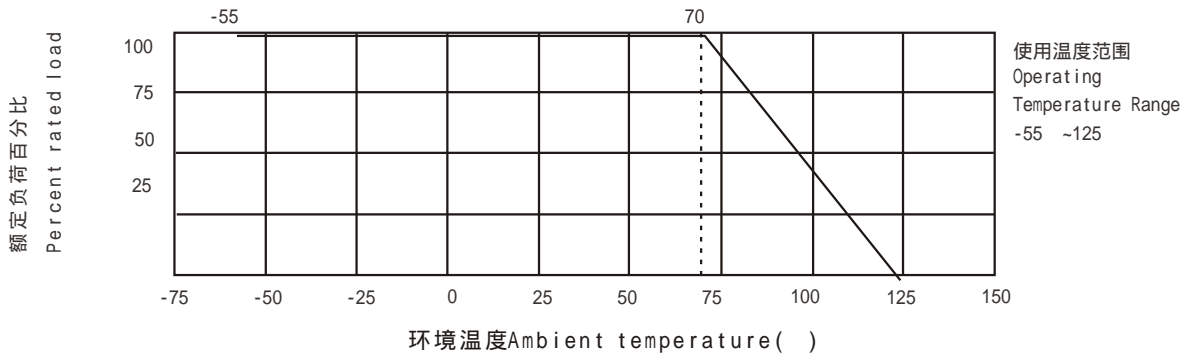
• IEC E-24 系列电阻值代码对照表

IEC E-24 Series Resistance Cross-reference List

E-24 系列 E-24 Series ($\times 10^n$)
(单位unit: 1、10、100、1K、10K、100K、1M)

1.0	1.5	2.2	3.3	4.7	6.8
1.1	1.6	2.4	3.6	5.1	7.5
1.2	1.8	2.7	3.9	5.6	8.2
1.3	2.0	3.0	4.3	6.2	9.1

• 负荷下降曲线 DERATING CURVE



* 当电阻使用的环境温度超过70 时，其额定负荷(额定功率或额定电流)按上述曲线下降。
For resistors operated in ambient over 70 , rated load (power rating or current rating) shall be derated in accordance with above figure.

• 额定值 RATINGS

项 目 Item	标 准 Specification
额定功率 Power Rating	1/8w(1/4w)
最大工作电压 Max. Working Voltage	200V
最大过负荷电压 Max. Overload Voltage	280V
跨接电阻额定电流 Jumper Rated Current	2A
电阻温度系数 Resistance Temperature Coefficient	10 R 1M : $\pm 100\text{ppm}/$ 1 R < 10 , 1M < R 10M : $\pm 250\text{ppm}/$
阻值误差精度 Resistance Tolerance	$\pm 1\%$, $\pm 2\%$, $\pm 5\%$, 跨接电阻 Jumper: 50m
阻值范围 Resistance Range	0 (跨接电阻 Jumper)、1.0 ~10M E-24系列
使用温度范围 Operating Temperature Range	- 55 ~125
额定温度 Rated Temperature	+70

* 注：额定电压 = $\frac{\text{额定功率} \times \text{标称电阻值}}{\text{最大工作电压}}$ 中的较小值。
Note: Rated Voltage = $\frac{\text{Power Rating} \times \text{Resistance Value}}{\text{Max. Working Voltage}}$, whichever is lower.



● 特性 CHARACTERISTICS

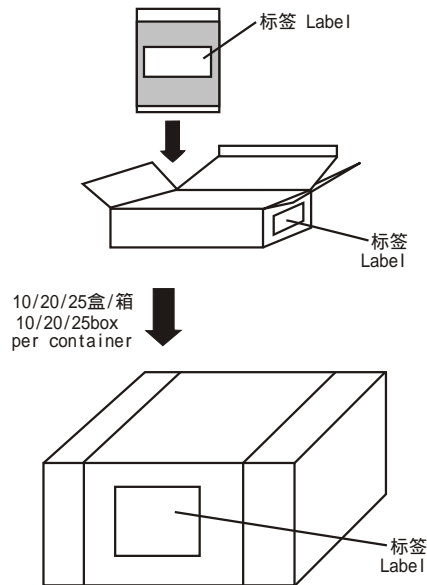
项目 Item	标准 Specifications	测试方法 (JIS C 5202 标准) Test Methods (JIS C 5202)
电阻温度系数 T. C. R	$\pm 100\text{ppm}/$ 、 $\pm 250\text{ppm}/$	-55 ~125 30~50分钟 -55 ~125 30~50min
短时间过载 Short Time Overload	无可见损伤, No mechanical damage $R \pm (2.0\%R + 0.05)$ 跨接电阻 Jumper: R 50m	2.5倍额定电压或最大过负荷电压 (取最小者) 保持5秒 $2.5 \times \text{Rated voltage or Max. Overload Voltage, choose the lower, for 5 seconds}$
封装绝缘阻抗 Coating Insulation Resistance	绝缘阻抗值大于100M 100M Min	施加 500V DC Apply 500V DC
封装绝缘耐电压 Coating Insulation Withstand Voltage	无弧光, 燃烧及本体被击穿 No arc, inflammation and damage	施加500V DC 保持1min Apply 500V DC 1min
可焊性 Solderability	可焊面积 95% 95%Cover Min	235 ± 5 2 ± 0.5 秒 235 ± 5 2 ± 0.5 S
耐溶剂性 Resistance to Solvent	无可见损伤, No mechanical damage $R \pm (1.0\%R + 0.05)$ 跨接电阻 Jumper: R 50m	浸入三氯乙烯 10 ± 1 小时 Dip in chloroethylene for 10h ± 1 h.
阻燃性 Resistance to inflammation	V-0	VL-94
引线强度 Pin strength	无可见损伤, No mechanical damage $R \pm (1.0\%R + 0.05)$ 跨接电阻 Jumper: R 50m	将引线焊接在网络电阻的受试引出端后, 拉力到500g止 Speed:10mm/s, pull strength:500g.
抗弯强度 Bending strength	无可见损伤 No mechanical damage	端子线末端负重0.5kg,使电阻器本体与端子线弯成90°,保持5s,为一个循环,做2个循环 Force with 0.5kg on the terminal pin, between the resistor and the terminal pin is 90 degree, duration: 5s for 1 cycle. total 2 cycles
振动试验 vibration	无可见损伤, No mechanical damage $R \pm (1.0\%R + 0.05)$ 跨接电阻 Jumper: R 50m	10HZ 55HZ 10HZ 1min 内完成, 振幅1.55mm, 上述方法 X、Y、Z 三个方向各振动 2 小时 10HZ 55HZ 10HZ within 1 min, swing:1.55mm, three directions for X、Y、Z for 2 hours
耐焊接热 Resistance to Soldering Heat	无可见损伤, No mechanical damage $R \pm (1.0\%R + 0.05)$ 跨接电阻 Jumper: R 50m	260 ± 5 10 ± 1 秒 260 ± 5 10s ± 1 s
温度循环 Temperature Cycling	无可见损伤, $R \pm (1.0\%R + 0.05)$ No mechanical damage	-55 (30分钟)~常温 (15分钟)~125 (30分钟) 5个循环 -55 (30min)~normal temperature (15min)~125 (30min) 5cycles

THICK FILM NETWORK RESISTOR

项目 Item	标准 Specifications	测试方法 (JIS C 5202 标准) Test Methods (JIS C 5202)
稳态湿热 Steady state humidity	无可见损伤, No mechanical damage $R \pm (3.0\%R + 0.1)$ 跨接电阻 Jumper: R 100m	40 ± 2 90%~95%RH1000小时 40 ± 2 90%~95%RH1000h
70 耐久性 Load Life(70)	无可见损伤, No mechanical damage $R \pm (3.0\%R + 0.1)$ 跨接电阻 Jumper: R 100m	70 ± 2 , 1000小时, 额定电压, 通1.5小时, 断0.5小时 70 ± 2 1000h, Rated voltage, 1.5h on/0.5h off
上限类别温度耐久性 Endurance at upper temperature	无可见损伤, No mechanical damage $R \pm (3.0\%R + 0.1)$ 跨接电阻 Jumper: R 100m	125 ± 2 1000小时 125 ± 2 1000h

● 包装 PACKAGING

* 包装形式 Packaging style



* 包装数量 Packaging quantity

		4、5 脚 Pins	6—12 脚 Pins	13—14 脚 Pins	
塑料袋散包装 Case	袋 Bag	1000pcs	1000pcs	600pcs	
	盒 Box	2000pcs	1000pcs	600pcs	
	箱 Container	小small	10盒Boxs		
		中mid	20盒Boxs		
		大big	25盒Boxs		