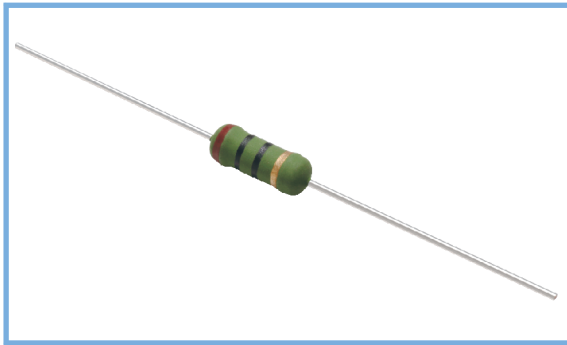


## WIRE WOUND RESISTORS, FLAMEPROOF

### 不燃性繞線電阻器



#### Features

1. Super heat dissipation ; small linear temperature coefficient.
2. Instant overload capability ; low noise figure and low annual shift on resistance values.
3. Flameproof, light weight, price is lower than enamel types.
4. Winding wires are much more durable than enamel types which are produced in high temperature.

#### 特色

1. 散熱性佳，溫度係數小且呈線性變化。
2. 耐短時間超負載；低雜音，阻值經年無變化。
3. 不燃性、重量輕，價格比琺瑯電阻便宜。
4. 不似琺瑯電阻高溫燒成，此種電阻持久而不損壞。

## ELECTRICAL AND MECHANICAL PERFORMANCE

### 電氣及機械特性

特性 Characteristics	規格值 Standards	試驗方法 Test Methods
阻值容許誤差 Resistance Tolerance	$\pm 5\%$ (J) or $\pm 1\%$ (F)	-
溫度係數 Resistance Temp. Coeff.	$\pm 300$ ppm / °C	-55°C ~ 200°C
額定負載 Power Rating Load	Surface temp. 275°C Max. 最高表面溫度 275°C, $\Delta R/R \leq \pm 2\%$	Rated voltage for 30 minutes 額定電壓 / 30分鐘
短時間過負載 Short Time Overload	$\pm 2\%$	10 times of rated wattage for 5 seconds. 10 倍額定功率 / 5秒
耐電壓 Dielectric Withstanding Voltage	No evidence of mechanical damage or insulation breakdown. 無機械性能損壞及絕緣擊穿現象	Applying suitable voltage listed on Dimensions for one minute. 施加規定電壓 1 分鐘
絕緣電阻 Insulation Resistance	1,000M $\Omega$	DC100V or 500V megger
端子強度 Terminal Strength	No evidence of mechanical damage. 無機械性能損壞現象	< 1W : 1 kg > 2W : 2.5 kg
焊錫性 Solder-ability	Minimum 95% coverage 焊錫面積 $\geq 95\%$	235 $\pm$ 5°C for 2 seconds
浸錫耐熱性 Resistance to Soldering Heat	No evidence of mechanical damage. 無機械性能損壞現象, $\Delta R/R \leq \pm 1\%$	270 $\pm$ 5°C for 10 $\pm$ 1 seconds 350 $\pm$ 10°C for 3.5 $\pm$ 0.5 seconds

## ENVIRONMENTAL CHARACTERISTICS

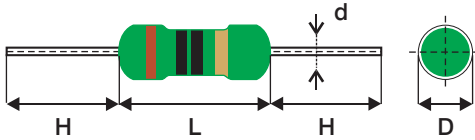
### 耐環境特性

特性 Characteristics	規格值 Standards	試驗方法 Test Methods
溫度週率 Temp. Cycle	$\Delta R/R \leq \pm 1\%$	-55°C ( 30 min.) $\rightarrow$ Room Temp. ( 3 min.) $\rightarrow$ +200°C ( 30 min.) $\rightarrow$ Room Temp. ( 3 min.) / ( 5 cycles)
負載壽命 Load Life	$\Delta R/R \leq \pm 3\%$	Rated power load 90 minutes ON 30 minutes OFF 70°C 1000 hours
耐濕壽命 Moisture-proof Load Life	$\Delta R/R \leq \pm 3\%$	Rated power load 90 minutes ON 30 minutes OFF 40°C 95% RH 1000 hours
不燃性 Nonflammability	not flamed	16 times of rated wattage for 5 min.

※ 參考規格 Reference Standards  
JIS C 5201-1

## Dimensions

### 尺寸



Unit : mm

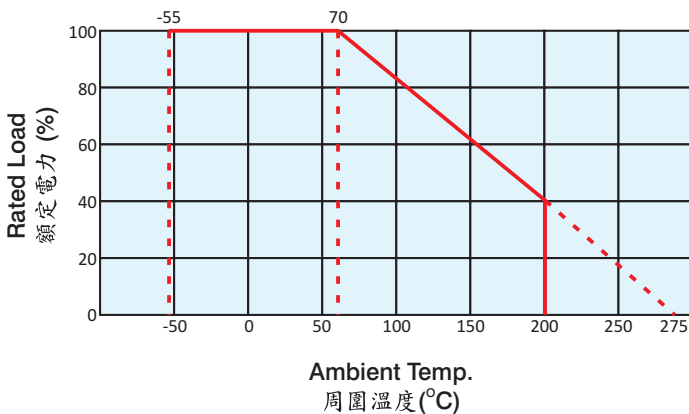
Rated Wattage	D±1	L±1	H±3	d±0.1	Resistance Range(Ω)	Dielectric Withstanding Voltage
1/4W	2.6±0.5	6.8	28	0.6	0.1~200	250V
1/2W	3.0	9	28	0.65	0.1~300	350V
1W	4	9	28	0.65	0.1~500	350V
2W	5.0	11	28	0.8	0.1~1K	500V
3W	5.5	13	38	0.8	0.1~1K	500V
3WL	5.5	15	38	0.8	0.1~1.2K	500V
5W	6.5	19	38	0.8	0.1~1.2K	500V
6W	8.5	24	38	0.8	0.1~1.5K	500V
7W	8.5	32	33	0.8	0.1~1.5K	500V
8W	8.5	41	38	0.8	0.1~2.2K	800V
10W	8.5	53	38	0.8	0.1~3.3K	1000V

**Note:** Too low or too high ohmic values can be supplied only case by case.

## Derating Curve

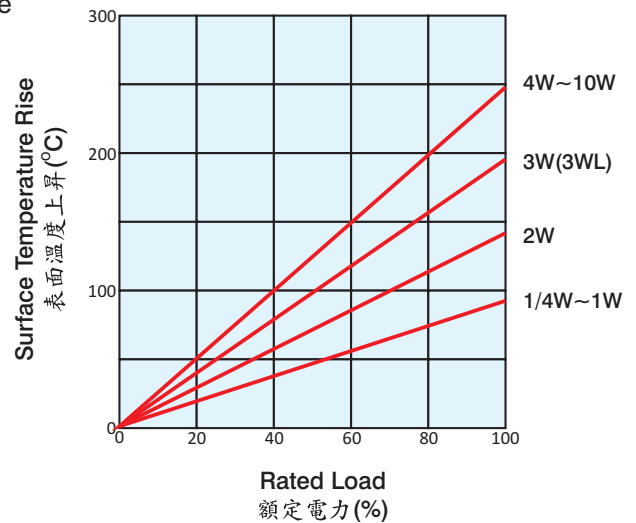
### 電力輕減曲線

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.



## Surface Temperature Rise

### 表面溫度上昇曲線



## How to order

### 訂貨方式

It is composed by Type, Rated Wattage, Nominal Resistance, Tolerance and Package. e.g.

KNP   1W   10R   J   T/B  
a.      b.      c.      d.      e.

- a. : Type(種類): Wire Wound Resistors, Flameproof are called "KNP".
- b. : Rated Wattage(額定電力) : Shown by "W" such as 1/4W, 1/2W, 1W, 2W, 3W, 3WL, 5W, 6W, 7W, 8W, 10W
- c. : Nominal Resistance(公稱電阻值) : 10Ω.
- d. : Tolerance(容許誤差): F = ±1%, J = ±5% .
- e. : Package (包裝方式):  
T/R=tape & reel (捲裝); T/B=tape in box(帶裝); Nil= Bulk(散裝).

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