

# KNP-A series

## WIRE WOUND RESISTORS, FLAMEPROOF, ANTI-BURST

### 防爆型繞線電阻器



#### Features

1. Fail-Safe without flames, explosion and arc when mains voltage 80~270V AC directly applied.
2. High Dielectric Withstanding Voltage up to 1KV.
3. Anti-Burst construction in a ceramic tube, resistant to humidity and insulation.
4. UL1412 approved.

#### 特色

1. 主電源直接跨接時，不會產生火花、爆炸及電弧現象。
2. 耐電壓能力可達 1KV。
3. 防爆型套管包覆，具耐濕及絕緣特性。
4. UL1412 認證。

## 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	±5% (J)	-
溫度係數 Resistance Temp. Coeff.	< 4500 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, $\Delta R/R \leq \pm 1\%$	Rated voltage for 30 minutes 額定電壓 / 30分鐘
短時間過負載 Short Time Overload	±2%	5 times of rated wattage for 5 seconds. 5 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	AC 1000V for 1 minutes 施加 AC 1000V 電壓 1 分鐘。
絕緣電阻 Insulation Resistance	1,000MΩ	DC 500V megger
端子強度 Terminal Strength	No evidence of mechanical damage. 無機械性能損壞現象	1 kg
焊錫性 Solder-ability	Minimum 95% coverage 焊錫面積 $\geq 95\%$	235 ± 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 ± 5°C for 10 ± 1 seconds 350 ± 10°C for 3.5 ± 0.5 seconds

## ENVIRONMENTAL CHARACTERISTICS

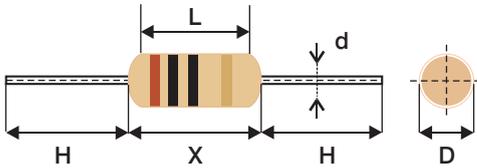
### 耐環境特性

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.) → Room Temp. (3 min.) → +200°C (30 min.) → 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.

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## Dimensions

### 尺寸



Unit : mm

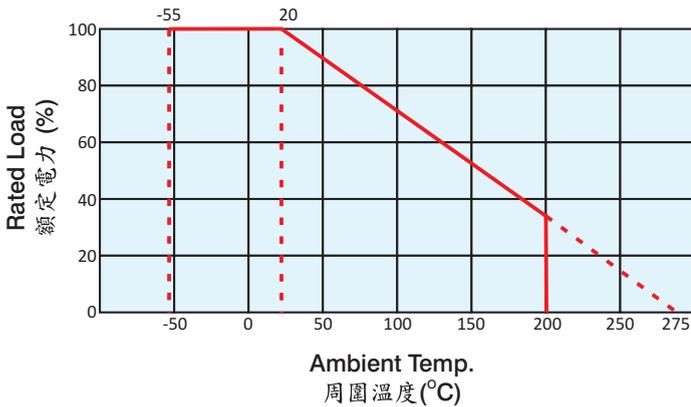
Rated Wattage	D $\pm$ 1	L $\pm$ 1	X Max.	H $\pm$ 3	d $\pm$ 0.1	Resistance Range( $\Omega$ )
1WS	4.5	6.5	9	28	0.65	1~47

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

## Derating Curve

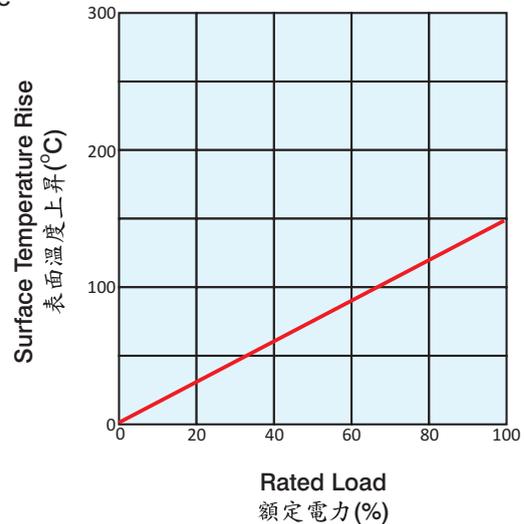
### 電力輕減曲線

For resistors operated in ambient temperatures above 20°C, power rating must be derated in accordance with the curve below.



## Surface Temperature Rise

### 表面溫度高昇曲線



## How to order

### 訂貨方式

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

KNP 1WS 10 $\Omega$  J A H2 T/B  
a. b. c. d. e. f. g.

- a. : Type(種類): Wire Wound Resistors, Flameproof are called "KNP".
- b. : Rated Wattage(額定電力) : Shown by "W", such as "1WS".
- c. : Nominal Resistance(公稱電阻值) : 10 $\Omega$ .
- d. : Tolerance(容許誤差): G =  $\pm$ 2% , J =  $\pm$ 5% .
- e. : A : Letter "A" indicates anti-burst. ("A"表示防爆)
- f. : H2 : Letter "H2" indicates special wire. ("H2"表示特殊線材)
- g. : Package (包裝方式):  
T/B=tape in box(帶裝); Nil= Bulk(散裝).