

## Low Ohmic - Current Sense Resistors

### Type KNP Series

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Tyco have utilised a unique proprietary controlled atmosphere processing technique which allows for greater precision in element formation and produces extremely stable, low resistance values. All KNP Series resistors are moulded in a high temperature silicone resin. This provides a higher dissipation or power to size ratio. It also provides superior heat, thermal shock and moisture resistance. It will not peel, flake or deteriorate with commonly used cleaning solvents including freon.

Tyco Low Ohm resistors are ideal for test instruments, power amplifiers, all types of current sensing applications including switching and linear power supplies. Custom design applications are also available, where volumes justify investment.

#### Key Features

- Flexible Manufacturing
- Tolerances from  $\pm 1\%$  to  $\pm 5\%$
- Robust Silicone Moulding
- High Power to Size Ratio
- Temp Range  $-55^{\circ}\text{C}$  to  $275^{\circ}\text{C}$
- Low Inductance <20 Nanohenries
- Wide Value Range  $< 1\Omega$

#### Characteristics - Electrical

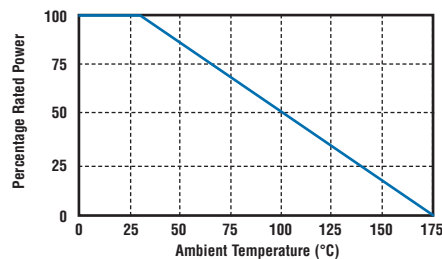
	KNP1A	KNP2A	KNP5A
Continuous Power Dissipation @ $25^{\circ}\text{C}$ in free air (W):	1	3	5
Overload Power for 5 Seconds (W):	5	15	25
Maximum Working Voltage (V):	$\sqrt{1 \times R}$	$\sqrt{3 \times R}$	$\sqrt{5 \times R}$
Maximum Storage Temperature:	175	175	175

Power Dissipation - The maximum power rating depends upon the amount of heat which can be transferred to the surroundings, and must be taken into account when selecting a resistor

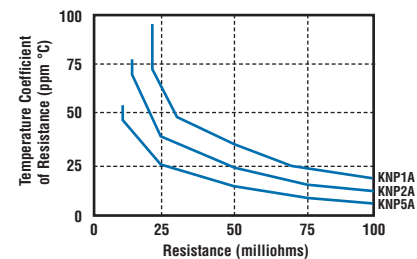
#### Characteristics - Environmental

Test Parameters	MIL-STD 202	Maximum Shift
Load Life 2000 Hrs (% $\Delta R$ ):	Method 108	$\pm 1\%$
Thermal Shock (% $\Delta R$ ):	Method 107	$\pm 1\%$
Vibration (% $\Delta R$ ):	Method 204	$\pm 0.5\%$
Mechanical Shock (% $\Delta R$ ):	Method 213	$\pm 0.5\%$
Dielectric Strength (% $\Delta R$ ):	Method 301	$\pm 0.5\%$
Insulation Resistance (Ohms):	Method 302	$> 10^{11}$

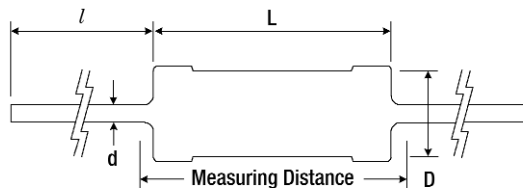
#### Derating Curve



#### TCR vs Resistance



#### Dimensions



Style	L	D	Measuring Distance	I	d
KNP1A	10.9	3.0	30.0	38.1	$0.51 \pm 0.05$
KNP2A	15.3	5.3	34.4	38.1	$0.81 \pm 0.05$
KNP5A	23.5	7.0	45.2	38.1	$1.01 \pm 0.05$

Connection points are relevant when precise values are required.

#### How to Order

KNP	1A	R003	J
Common Part	Rated Power	Resistance Value	Resistance Tolerance
KNP	1A - 1 Watt 2A - 3 Watt 5A - 5 Watt	R003, R01, R015, R02, R025, R03, R04, R05, R07, R08, R10	F - $\pm 1\%$ E - $\pm 3\%$ J - $\pm 5\%$