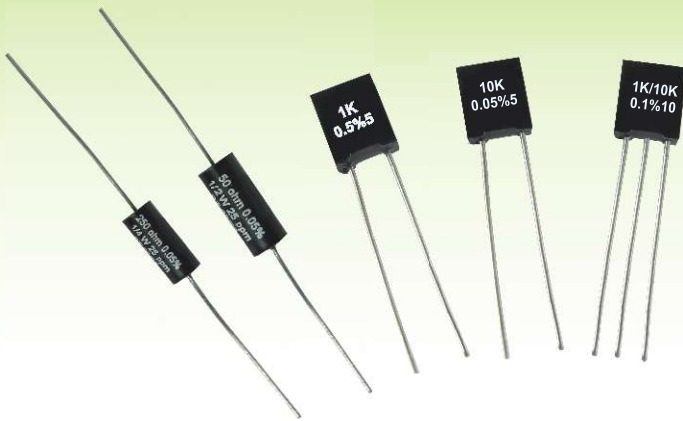


## ENCAPSULATED PRECISION RESISTORS



INTRON precision thin film resistors are made by vacuum depositing a controlled film of NiCr on high purity alumina substrate. The resistors are formed using high resolution photolithography. The values are micro trimmed to the exact value with a tolerance of 0.05%. The TCR and tolerance is obtained by process capability and does not rely on a selection process. These resistors are encapsulated using epoxy making them more robust. Resistor sets matched to precise tolerance and TCR can be given.

### FEATURES:

- Resistive Material : NiCr
- Substrate Material : Alumina
- Body : Epoxy Encapsulated
- Terminals : Tinned Copper wire
- Resistance Range : 10  $\Omega$  to 1M  $\Omega$   
any odd value possible.
- High Precision :  $\pm 0.05\%$ ,  $\pm 0.1\%$ ,  $\pm 0.2\%$ ,  $\pm 0.5\%$ ,  $\pm 1\%$
- Low TCR :  $\pm 10$ ,  $\pm 15$ ,  $\pm 25$  ppm/ $^{\circ}\text{C}$   
(tested between 25 $^{\circ}$ , 75 $^{\circ}$  & 125 $^{\circ}\text{C}$ )  
 $\pm 5$  ppm/ $^{\circ}\text{C}$  for values 100  $\Omega$  to 100K $\Omega$

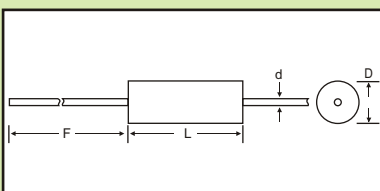
### APPLICATIONS:

- Precision weighing scales
- Temperature and Chart recorder
- Calibration equipment
- Testing and measuring equipment
- High Precision amplifiers
- High end Audio equipment

### AXIAL RESISTOR:

TYPE	POWER RATING @ 70 $^{\circ}\text{C}$	LEAD PITCH INCH	MAXIMUM WORKING VOLTAGE	RESISTOR RANGE	DIMENSIONS IN MM (max.)			
					L	D	F	d
AX	1/2W	AXIAL	500V	10 $\Omega$ to 1M	14.0	5.5	25.0	0.6

### DIMENSIONS:



### MARKING:

The resistors are marked with value tolerance and TCR for easy identification.

Any customer code can be printed on the resistor depending on the space.

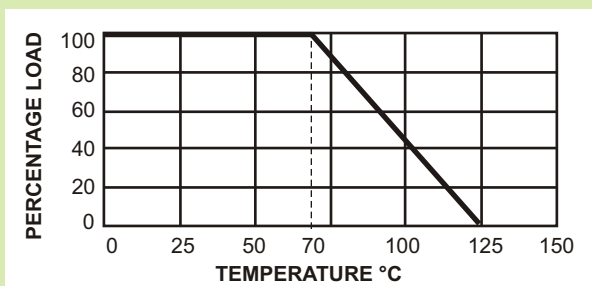
### ORDERING INFORMATION:

1/4 W	AA	10K	0.05%	5 ppm/ $^{\circ}\text{C}$
Wattage	Type	Value	Tolerance	TCR

## PERFORMANCE:

Parameters	Specifications	Test Conditions
Operating Temperature Range	-55°C to +125°C	
Insulation Resistance	10,000M $\Omega$	300 Volts, 1 minute
Temperature Cycling	+/- 0.05%	-55°C 30min, +125°C 30min, 5 cycles
Damp Heat	+/- 0.1%	40°C, 90-95% RH, DC 0.1W, 1,000 hours
Short Time Overload	+/- 0.05%	2.5 times the Rated Voltage for 5 seconds
Load Life	+/- 0.1%	Rated Power at 70°C, 90min ON, 30min OFF, 1000 hours
Soldering Heat	+/- 0.03%	350°C, 3 seconds
Moisture Resistance	+/- 0.1%	+65°C to -10°C, 90-100% RH, Rated Voltage, 10 cycles (240 hours)
Solderability	Covered 95%	235°C, 2 seconds
Solvent	No Damage	IPA test
Noise	< - 43dB	
Shelf Life Stability	+/- 0.03%	One year at 25°C

## POWER DERATING CURVE:



**INTRON**

**Integrated Electronics Technology Pvt. Ltd.**

A -218, Road No. 16/V, Wagle Industrial Area, Thane 400 604. India

Tel: +91 22 25821053 Fax: +91 22 25822162

email: [intron@vsnl.com](mailto:intron@vsnl.com) / [intron@mtnl.net.in](mailto:intron@mtnl.net.in)

[www.intronresistors.com](http://www.intronresistors.com)