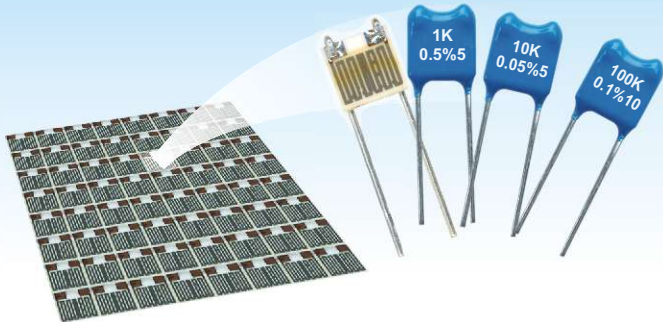



## RADIAL PRECISION RESISTORS (EPOXY COATED)

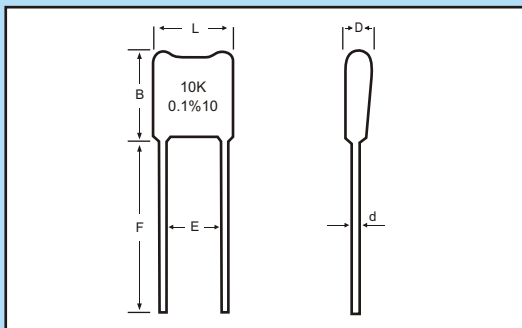


INTRON precision thin film resistors are made by vacuum depositing a controlled film of NiCr on high purity alumina substrate. The resistors are formed using high resolution photolithography. The values are micro trimmed to the exact value with a tolerance of 0.05%. The TCR and tolerance is obtained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

### SPECIFICATIONS:

| PHOTO  | TYPE | POWER RATING @ 70°C | LEAD PITCH INCH | MAXIMUM WORKING VOLTAGE | RESISTOR RANGE | DIMENSIONS IN MM (max.) |     |     |      |      |     |
|--|------|---------------------|-----------------|-------------------------|----------------|-------------------------|-----|-----|------|------|-----|
|  |      |                     |                 |                         |                | L                       | B   | D   | E    | F    | d   |
|  | SAA  | 1/4W                | 0.2             | 350V                    | 10Ω to 1M      | 7.0                     | 8.0 | 2.3 | 5.08 | 15.0 | 0.6 |

### DIMENSIONS:



### FEATURES:

- High Precision:  $\pm 0.05\%$ ,  $\pm 0.1\%$ ,  $\pm 0.2\%$ ,  $\pm 0.5\%$ ,  $\pm 1\%$
- Low Temperature Co-efficient:  $\pm 5$ ,  $\pm 10$ ,  $\pm 15$ ,  $\pm 25$  ppm/°C (tested between 25°, 75° & 125°C)
- Wide Resistance Range: 10 ohm to 1M ohm with any odd value possible.
- Radial lead design: Lead pitch of 0.1", 0.2", 0.4"  
Lead frame design available on request.
- Wattage: 1/6W, 1/4W, 1/2W @ 70°C.

### APPLICATIONS:

Precision weighing scales, Temperature and Chart recorders, Calibration equipment, Testing and measuring equipment, High Precision amplifiers, Current Sensing, High end Audio equipment, etc.

### 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   | SAA  | 10K   | 0.1 %     | 10 ppm/°C |
| Wattage | Type | Value | Tolerance | TCR       |

## PERFORMANCE:

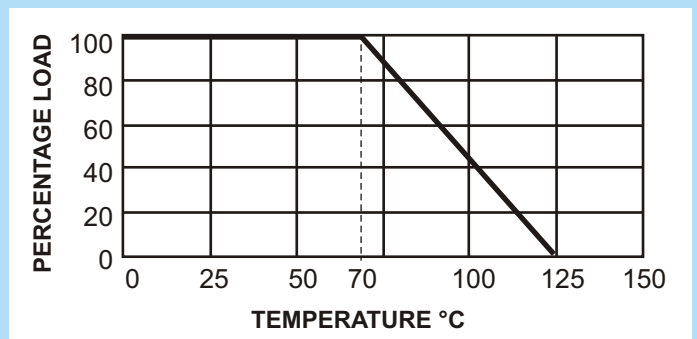
| Parameters                  | Specifications   | Test Conditions   |
|-----------------------------|------------------|---|
| Operating Temperature Range | -55°C to +125°C  |   |
| Insulation Resistance       | 10,000M $\Omega$ | 300 Volts, 1 minute   |
| Temperature Cycling         | +/-0.05%         | -55°C 30min, +125°C 30min, 5 cycles                             |
| Damp Heat                   | +/-0.1%          | 40°C, 90-95%RH, DC 0.1W, 1,000hours                             |
| 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, 1000hours             |
| Soldering Heat              | +/-0.03%         | 350°C, 3seconds   |
| 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  |

## STANDARD TESTING PROCEDURE :

For 100% of the resistors:

1. Short time Overload in which 2.5 times the rated voltage (6.25 x rated power) is applied for 5 seconds.
2. Rated Wattage in which the rated voltage is dissipated in the resistor for 24 hours.
3. TCR measurement done at 25°C, 75°C and 125°C.
4. Resistance tolerance measured on 7 ½ DMM at 25°C.
5. Visual and Mechanical inspection.

## 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 / intron@mtnl.net.in

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