

# IS Series

## Ultra Low Profile Power Resistors

HEAT  
SINKABLE



### FEATURES

- Heatsinkable
- Low profile
- High power
- Pulse handling capability
- Non-flammable
- Low inductances
- Available with fast-on terminals or wire leads
- Rugged construction
- Ultra low profile thick-film on steel
- 175W to 270W sizes
- Single fixing heatsink mountable

### USES

- Braking resistors
- In-rush current limiter
- Bleeder resistor
- Power switching
- Soft charging

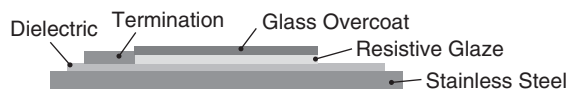
### THIS PRODUCT IS DESIGNED FOR USE WITH PROPER HEATSINKING.

Maximum base plate temperature of the resistor must be monitored and kept within specified limits to establish the power rating. Best technique is to attach a thermocouple to the side of the base plate of the resistor.

### SERIES SPECIFICATIONS

| Type  | Power Rating (watts) | Resistance Range ( $\Omega$ ) | Tolerance |
|-------|----------------------|-------------------------------|-----------|
| IS175 | 175                  | 5 $\Omega$ to 10K $\Omega$    | 10%, 20%  |
| IS200 | 200                  | 5 $\Omega$ to 10K $\Omega$    | 10%, 20%  |
| IS250 | 250                  | 5 $\Omega$ to 10K $\Omega$    | 10%, 20%  |
| IS270 | 270                  | 5 $\Omega$ to 10K $\Omega$    | 10%, 20%  |

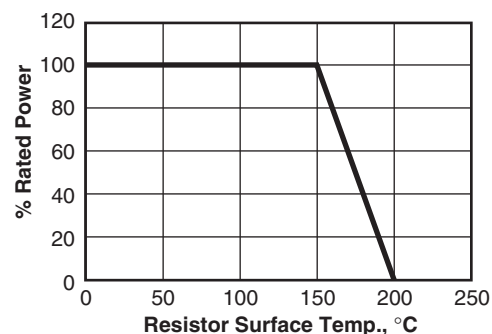
### Construction



### CHARACTERISTICS

|                                                     |                                                                                                                                         |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| TCR                                                 | <250ppm (surface temp less than 150°C)                                                                                                  |
| Hot spot surface temperature                        | 200°C max.                                                                                                                              |
| Working voltage                                     | Not to exceed 300V                                                                                                                      |
| Over-voltage rating                                 | 5X rated power for up to for up to 1 second                                                                                             |
| Resistive element                                   | Thick Film                                                                                                                              |
| Derating                                            | element surface temp. at 100% to 0% power at 200°C surface temp.                                                                        |
| Power rating                                        | dependent on mounting and heat-sink thermal capacity                                                                                    |
| Maximum element temperature                         | 365°C                                                                                                                                   |
| Pulsed load at full pulse power rating 1,000 cycles | Max. 1% $\Delta R$ ; (see Fig 1)<br>Mounted on a 0.06°C/W heatsink with forced air cooling, air temperature 25°C (ref AH32430 12" long) |

### Derating



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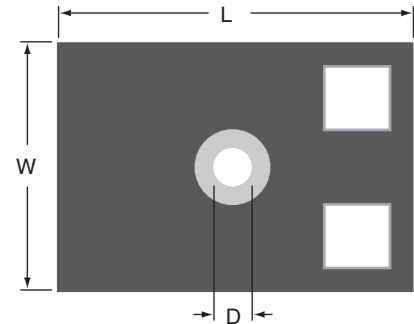
HEAT  
SINKABLE

### DIMENSIONS

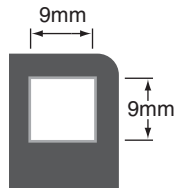
(in/mm)

Thickness: 0.04 in. / 0.9mm  $\pm$ .1

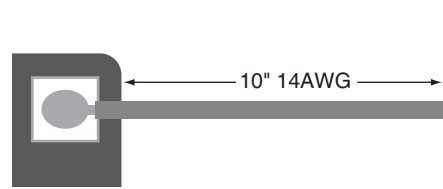
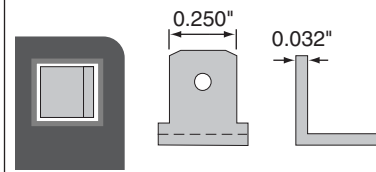
| Type  | Wattage | L $\pm$ 0.1mm | W $\pm$ 0.1mm | $\varnothing$ D nom. | Wt. nom (oz/g) |
|-------|---------|---------------|---------------|----------------------|----------------|
| IS175 | 175     | 1.94/49.30    | 1.41/35.90    | 0.13/3.20            | 0.44/12.60     |
| IS200 | 200     | 2.40/61.00    | 1.60/40.60    | 0.21/5.30            | 0.60/17.10     |
| IS250 | 250     | 4.00/101.60   | 2.76/70.00    | 0.21/5.30            | 1.78/50.80     |
| IS270 | 270     | 4.80/122.00   | 2.76/70.00    | 0.21/5.30            | 2.12/60.70     |



### TERMINATION OPTIONS

Solder pad only  
SnAg (96S)

Flying leads

Push-on  
connectors

### ORDERING INFORMATION

|                          |         |                      |                   |                                 |                   |
|--------------------------|---------|----------------------|-------------------|---------------------------------|-------------------|
|                          |         |                      |                   | Tolerance<br>K = 10%<br>M = 20% | RoHS<br>Compliant |
| <b>IS 200 C 47 R K E</b> |         |                      |                   |                                 |                   |
| Series                   | Wattage | Termination          | Resistance        |                                 |                   |
| Insulated                | 175     | A = Tinned pad       | 3 digits          |                                 |                   |
| Steel                    | 200     | B = Soldered lead    | 47R = 47 $\Omega$ |                                 |                   |
|                          | 250     | C = Fast on terminal |                   |                                 |                   |
|                          | 270     |                      |                   |                                 |                   |