

## TO-247 Power Resistors



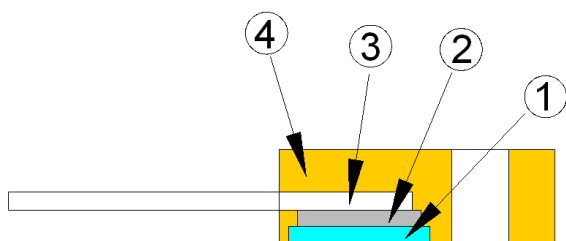
### ■ Features

- 100 watts at 25°C case temperature heat sink mounted
- TO-247 style power package
- Single M3 screw mounting to heat sink
- Molded case for protection and easy to mount
- Electrically isolated case
- Non-Inductive design

### ■ Applications

- Gate Resistors in Power Supplies
- Snubbers
- Load and Dumping Resistors in CRT Monitors
- Terminal Resistance in RF Power Amplifiers
- Voltage Regulation
- Low Energy Pulse Loading
- UPS

### ■ Construction

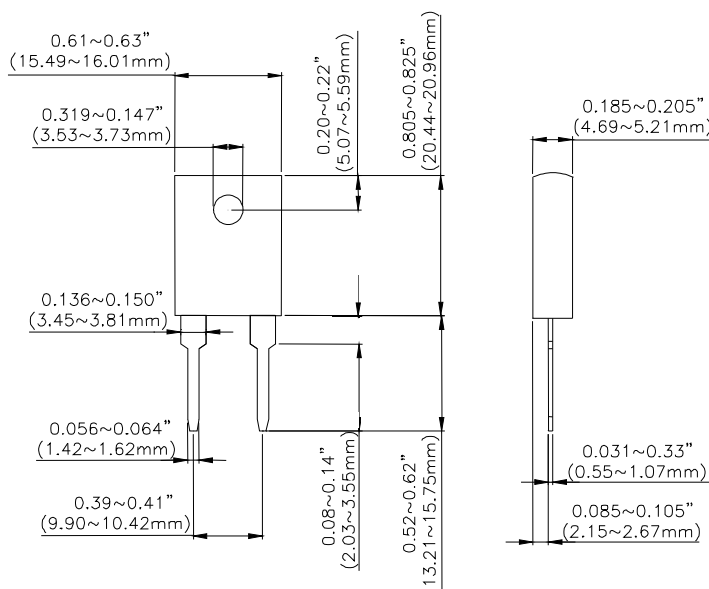


|                     |           |
|---------------------|-----------|
| ① Alumina Substrate | ③ Lead    |
| ② Resistor Layer    | ④ Molding |

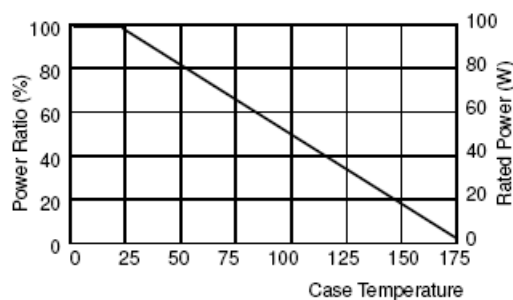
### ■ Dimensions

Unit: mm

| Type  | Weight (g)<br>(1000pcs) | Packaging |
|-------|-------------------------|-----------|
|       |                         | Tube      |
| TR100 | 3381                    | 35pcs     |



### ■ Derating Curve



## TO-247 Power Resistors

### Part Numbering

| TR           | 100            | J                           | D              | D                                                           | 1001                                                                 |
|--------------|----------------|-----------------------------|----------------|-------------------------------------------------------------|----------------------------------------------------------------------|
| Product Type | Power          | Resistance Tolerance        | Packaging Code | TCR (PPM/°C)                                                | Resistance                                                           |
|              | 100: 100 Watts | F: ±1%<br>J: ±5%<br>K: ±10% | D: Tube        | D: ±50<br>E: ±100<br>F: ±200<br>G: ±300<br>- : No Specified | R100: 0.1Ω<br>0100: 10Ω<br>4700: 470Ω<br>1001: 1000Ω<br>1002: 10000Ω |

### Electrical Characteristics Specifications

| Type  | Item | Resistance Range |             |      | TCR (PPM/°C)        |
|-------|------|------------------|-------------|------|---------------------|
|       |      | ±1%              | ±5%         | ±10% |                     |
| TR100 |      | -                | 0.05Ω -1Ω   |      | No Specified        |
|       |      |                  | >1Ω -3Ω     |      | ±300                |
|       |      |                  | >3Ω -10Ω    |      | ±100<br>±200        |
|       |      |                  | >10Ω -100KΩ |      | ±50<br>±100<br>±200 |

- Operating Voltage: 700V Max.
- Dielectric Strength: 1800V AC
- Insulation Resistance: 10GΩ min.
- Working Temperature Range: -65°C to +175°C

### Environmental Characteristics

| Item                                           | Requirement       | Test Method                                               |
|------------------------------------------------|-------------------|-----------------------------------------------------------|
| Temperature Coefficient of Resistance (T.C.R.) | As Spec.          | Referenced to 25°C, ΔR taken at +105°C                    |
| Load Life                                      | ΔR±1.0%           | Rated power, 2,000 hours                                  |
| Solderability                                  | 90% min. coverage | 245±5°C for 3 seconds                                     |
| Momentary Overload                             | ΔR±0.5%           | 1.5 times rated power and V (dc) ≤ 1.5VMax. for 5 seconds |
| Dielectric strength                            | ΔR±0.15%          | 1800v AC, 60 seconds                                      |
| Moisture resistance                            | ΔR±0.5%           | -10°C ~+65°C, RH>90%, cycle 240 hours                     |
| Thermal Shock                                  | ΔR±0.5%           | -65°C ~150°C, 100 cycles                                  |
| Terminal Strength                              | ΔR±0.2%           | (Pull Test) 2.4N                                          |
| Vibration, High Frequency                      | ΔR±0.4%           | 20g peak                                                  |

- Lead Material: Tinned Copper
- Maximum Torque: 0.9 Nm
- When in Free Air at 25°C, the TR100 is Rated for 3.5W
- The Case Temperature is to be used for the Definition of the Applied Power Limit
- The Case Temperature Measurement must be made with a Thermocouple Contacting the Center of the Component mounted on the Designed Heat Sink
- Thermal Grease should be Applied Properly