

# JARO Components, Inc.

## Series: TO

POWER FILM RESISTORS TO 140WATT



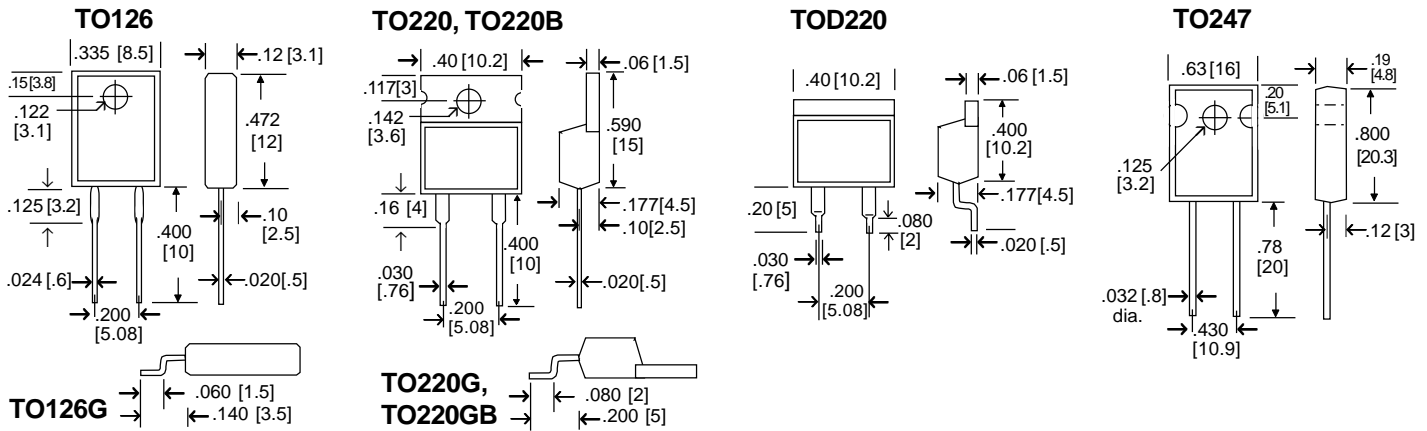
- Industry's widest range of TO-style power resistors!
- Standard resistance range: 0.01Ω to 56KΩ
- Standard tolerance: ±1%, ±2%, ±5% (available to 0.1%)
- Non-Inductive performance
- Resistor is electrically isolated from the mounting surface

### OPTIONS

- Option P: Increased pulse capability
- Option G: Gull-wing lead formation for surface mounting
- Option B: Increased power design
- Numerous design modifications are available (special marking, custom lead wires, burn-in, etc.)

### High Performance Molded Heat-Sink Resistors

JARO's TO series feature power film resistor elements designed for excellent environmental stability as well as superior high-frequency performance (custom designs up to 1GHz avail.). All sizes feature metal base plate for optimum heat transfer. The resistor is electrically isolated from the metal tab, and molded into various package styles with high-temp flame retardant epoxy.



### TYPICAL PERFORMANCE CHARACTERISTICS

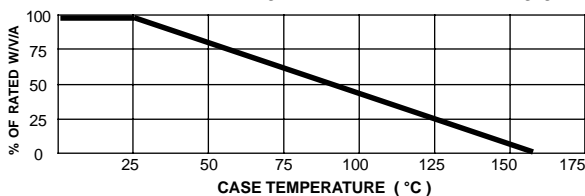
JARO Type	Max. Power with Heat Sink(25 °C)		Max Power <sup>1</sup> w/o Heat Sink (25 °C)	Thermal Resis. <sup>2</sup>	Max. Voltage <sup>3,4</sup>	Resistance Range (Ω) <sup>4</sup>
	<240Ω	≥240Ω				
TO126	20W	10W	1.25W	-6 °C/W	300V	.01 - 56K
TO126G	20W	10W	1.25W	-6 °C/W	300V	.01 - 56K
TO220	35W	20W	2.25W	-4 °C/W	500V	.01 - 56K
TO220G	30W	20W	2.25W	-4 °C/W	500V	.01 - 56K
TOD220	30W	20W	2.25W	-4 °C/W	500V	.01 - 56K
TO220B	50W	30W	2.25W	-2.5 °C/W	500V	.1 - 56K
TO220GB	45W	30W	2.25W	-2.5 °C/W	500V	.1 - 56K
TO247	100W	n/a	3.5W	<1.5 °C/W	√(PR)	.1 - 240
TO247B	140W	n/a	3.5W	<1 °C/W	√(PR)	.1 - 240

Std. Temp. Coefficient (Typ, +25 °C to +125 °C)	50ppm ≥10Ω (25ppm avail) 100ppm 0.1 - 9.9Ω 250ppm 0.01 - 0.99Ω
Std. Resistance Tol. (0.1%-5% avail)	±1% ≥.05Ω, ±5% <.05Ω
Dielectric Strength	1500VAC
Current Rating	30A max.
Insulation Resis.	10,000 MΩ min.
Load Life Stability	±1%
Overload	1.5x W, 5S, nte 1.5x Max V
Thermal Shock (Mil-Std-202 M107C)	±0.25%
Soldering Stability	±0.1%
Moisture Res (Mil-STD-202, M106)	±0.5%

<sup>1</sup> Power rating without heat sink is based on unit being mounted on double-sided 2oz 1" x 1" x .063" PCB.  
<sup>2</sup> R<sub>θJC</sub> Film (J) to Case (C)    <sup>3</sup> Voltage determined by E=(PR)<sup>1/2</sup>, not to exceed the Max. Voltage Rating  
<sup>4</sup> Extended range available, consult factory.

### POWER RATING

Power rating is based on the resistor being tightly screwed to a suitable heat sink (with thermal compound) to limit hot spot case temperature to 155°C. Derate wattage by .77%/°C above 25°C (as depicted in chart below). Mounting torque not to exceed 8 in-lbs. Refer to Appic.Guide R-34 for additional detail concerning heat-sink resistor mounting guidelines.



### P/N DESIGNATION:

JARO Type **TO220** - **1001** - **F** **B**

Options: P, G, B, etc (leave blank for std)

**Resis.Code 0.1%-1%:** 3 signif. digits & multiplier (R100=0.1Ω, 1R00=1Ω, 10R0=10Ω, 1000=100Ω, 1001=1K, etc)

**Resis.Code 2%-10%:** 2 signif. figures & multiplier (R10=0.1Ω, 1R0=1Ω, 100=10Ω, 101=100Ω, 102=1K, etc.)

**Tolerance Code:** J=5%, G=2%, F=1%, D=0.5%

**Packaging:** B = Bulk, T = Taped (bulk is standard)

**Optional Temp. Coefficient:** 25 = 25ppm, 50 = 50ppm (leave blank for standard)

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Specifications subject to change without notice