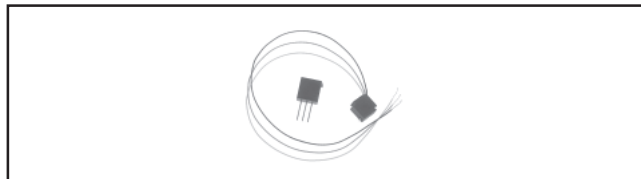


## 3/8" [9.52mm] Sq. Wirewound Trimmers



### FEATURES

- Precious metal wiper.
- 1.0 watt to + 85°C.
- TCR ± 50PPM/°C.
- Solderable leads.
- Military quality at affordable prices.

### APPLICATIONS

Wirewound trimmers are particularly useful in those applications where any combination of high power, low temperature coefficient of resistance and/or excellent long term life stability are important design considerations.

### ELECTRICAL SPECIFICATIONS

**Electrical Travel:** 22 ± 4 turns.

**Resistance Range:** 10 ohms to 10 kilohms. Extended range available in non MIL-Spec product.

**Resistance Tolerance:** ± 5% standard. Closer tolerances available.

**Temperature Coefficient:** (- 65°C to + 150°C) ± 50PPM/°C.

**Power Rating:** 1.0 watt at + 85°C derated to 0 watt at + 150°C. These specifications exceed MIL-Spec.

**End Resistance:** 1 ohm or 2%, whichever is greater.

**Equivalent Noise Resistance (ENR):** 100 ohms maximum.

**Dielectric (DWV):** 1000 VAC at atmospheric pressure.

These specifications exceed MIL-Spec.

**Insulation Resistance:** >100,000 Megohms (500 VDC).

These specifications exceed MIL-Spec.

### MECHANICAL SPECIFICATIONS

**Operating Torque:** 5 ounce inch maximum.

**Rotation:** Clutch stop, wiper idles.

**Weight:** 0.935 grams maximum.

**Resistive Element:** Nickel chromium.

**Rotational Life:** 200 cycles minimum.

**Terminal Strength:** 2 pounds for 10 seconds.

### ENVIRONMENTAL SPECIFICATIONS

**Temperature Limits:** - 65°C to + 150°C.

**Sealing:** Fully sealed case (non-hermetic).

### STANDARD RESISTANCE VALUES

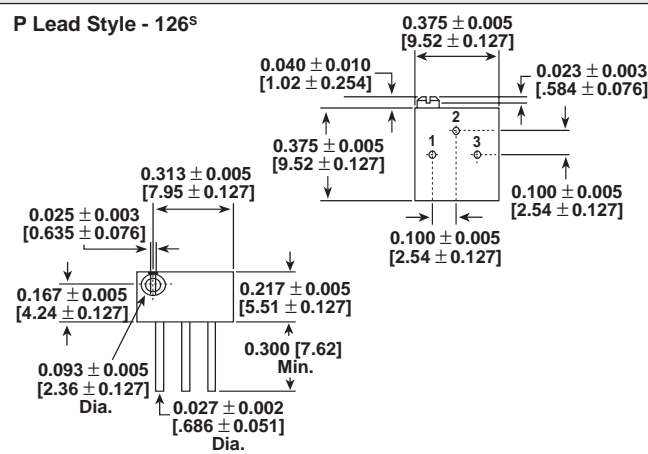
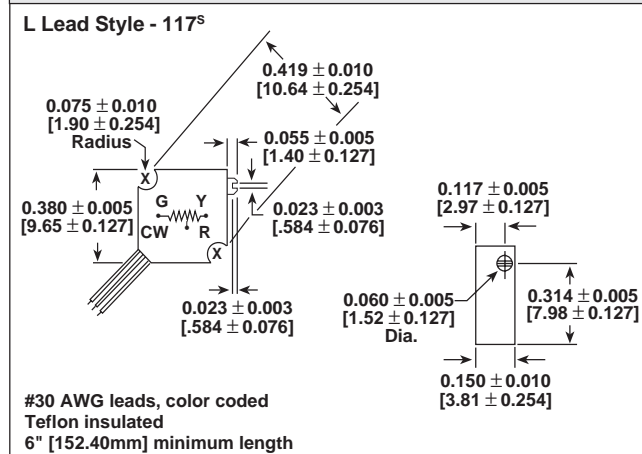
| RESISTANCE*<br>(Ohms) | NOMINAL RESOLUTION<br>(%) |
|-----------------------|---------------------------|
| 10                    | 1.10                      |
| 20                    | .85                       |
| 50                    | .65                       |
| 100                   | .51                       |
| 200                   | .40                       |
| 500                   | .45                       |
| 1k                    | .34                       |
| 2k                    | .27                       |
| 5k                    | .20                       |
| 10k                   | .16                       |
| 20k                   | .13                       |
| 25k                   | .12                       |
| 35k                   | .11                       |
| 50k                   | .10                       |

\*Other resistances available upon request.

### CIRCUIT DIAGRAM

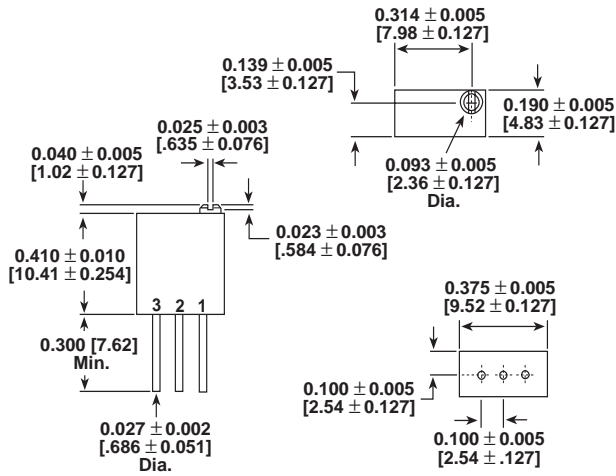


### DIMENSIONAL CONFIGURATIONS 3/8" [9.52mm] Square [Numbers in brackets indicate millimeters]

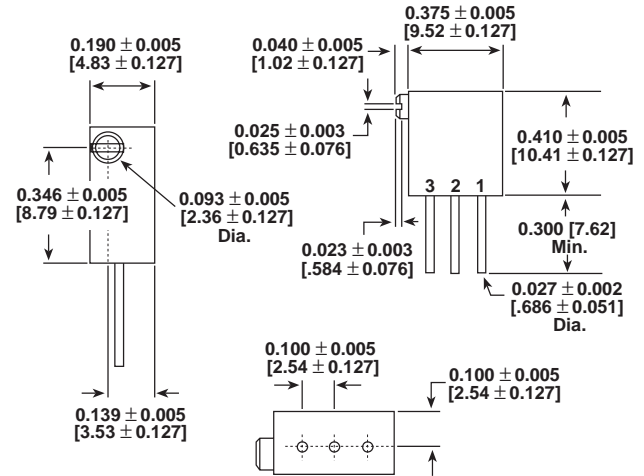


## DIMENSIONAL CONFIGURATIONS 3/8" [9.52mm] Square [Numbers in brackets indicate millimeters]

### W Lead Style - 151<sup>S</sup>



### X Lead Style - 176<sup>S</sup>



## ENVIRONMENTAL PERFORMANCE

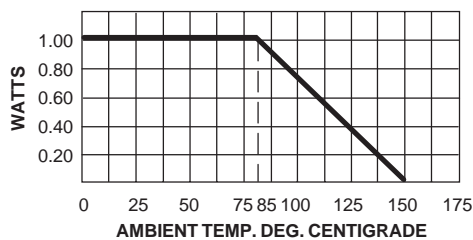
| TEST <sup>1</sup>            | CONDITIONS   | MIL-PRF-39015 REQUIREMENT   | TYPICAL CHANGE      |
|------------------------------|--|-----------------------------|---------------------|
| Power Conditioning           | (108) 50 hours at 1 watt at + 25°C   | $\Delta R \leq 0.5\%^2$     | $\Delta R < 0.08\%$ |
| Thermal Shock                | (107) 5 cycles, -55°C to + 125°C   | $\Delta R \leq 1.0\%^2$     | $\Delta R < 0.07\%$ |
| Low Temperature Storage      | 72 hours, no load at - 65°C  | $\Delta R \leq 1.0\%^2$     | $\Delta R < 0.05\%$ |
| Low Temperature Operation    | 1 hour storage, 45 minutes rated power at - 55°C                           | $\Delta R \leq 1.0\%^{2,3}$ | $\Delta R < 0.08\%$ |
| High Temperature Exposure    | 1000 hours, no load at + 150°C   | $\Delta R \leq 1.0\%^{2,3}$ | $\Delta R < 0.03\%$ |
| Moisture Resistance          | (106) 480 hours at rated power with humidity ranging from 80% RH to 98% RH | $\Delta R \leq 1.0\%^2$     | $\Delta R < 0.22\%$ |
| Resistance to Soldering Heat | (210) + 350°C for 3 seconds  | $\Delta R \leq 1.0\%^2$     | $\Delta R < 0.02\%$ |
| Shock                        | (213) 18 shocks, 100g, 6 ms, sawtooth, 3 axes                              | $\Delta R \leq 1.0\%^{2,3}$ | $\Delta R < 0.27\%$ |
| Vibration                    | (204) 10 to 2000 Hz, 20g, 12 hours, 3 axes                                 | $\Delta R \leq 1.0\%^{2,3}$ | $\Delta R < 0.04\%$ |
| Rotational Life              | 200 cycles   | $\Delta R \leq 2.0\%$       | $\Delta R < 0.06\%$ |
| Load Life                    | (108) 10,000 hours at rated power at + 85°C                                | $\Delta R \leq 3.0\%$       | $\Delta R < 0.23\%$ |

<sup>1</sup>Numbers in parenthesis refer to test method MIL-STD-202 as modified by the detail specification.

<sup>2</sup>For values below 100 ohms, add 0.05 ohm to the allowable change.

<sup>3</sup>The referenced tests also require that setting stability change shall not exceed  $\pm 0.05$  percent plus the specified maximum resolution.

## DERATING



## HOW TO ORDER

**117<sup>S</sup>**  
MODEL

117<sup>S</sup> = Teflon Leadwire  
 126<sup>S</sup> = PC Mount  
 151<sup>S</sup> = Top Adjustment Screw  
 176<sup>S</sup> = Side Adjustment Screw

**501**  
VALUE

First two digits are significant figures. Last digit specifies number of zeros to follow.