

Models 117^S, 126^S, 151^S and 176^S

Vishay Techno



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



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 \pm 4 turns.

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

Resistance Tolerance: \pm 5% standard. Closer tolerances available.

Temperature Coefficient: (- 65°C to + 150°C) \pm 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).

FEATURES

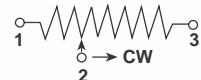
- Precious metal wiper.
- 1.0 watt to + 85°C.
- TCR \pm 50PPM/°C.
- Solderable leads.
- Military quality at affordable prices.

STANDARD RESISTANCE VALUES

RESISTANCE* (Ohms)	NOMINAL RESOLUTION (%)
10	.110
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

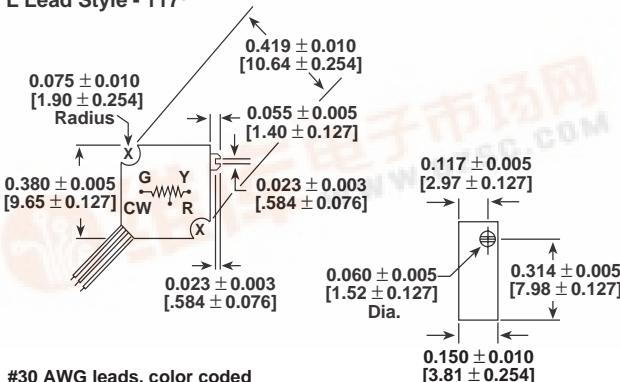
*Other resistances available upon request.

CIRCUIT DIAGRAM

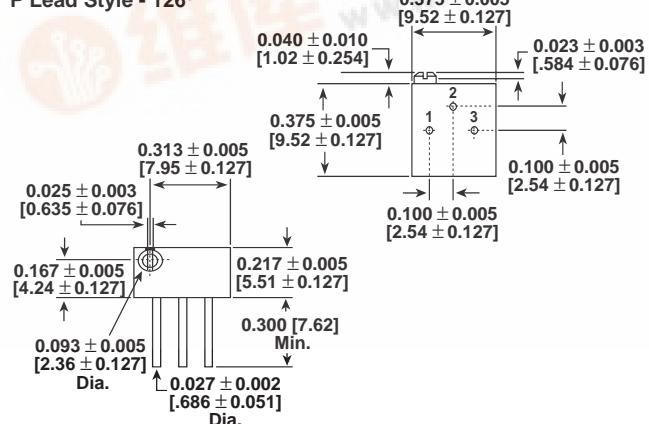


DIMENSIONAL CONFIGURATIONS 3/8" [9.52mm] Square [Numbers in brackets indicate millimeters]

L Lead Style - 117^S

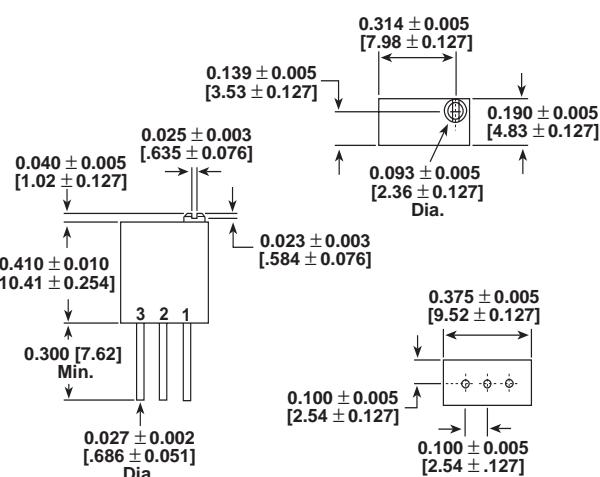


P Lead Style - 126^S

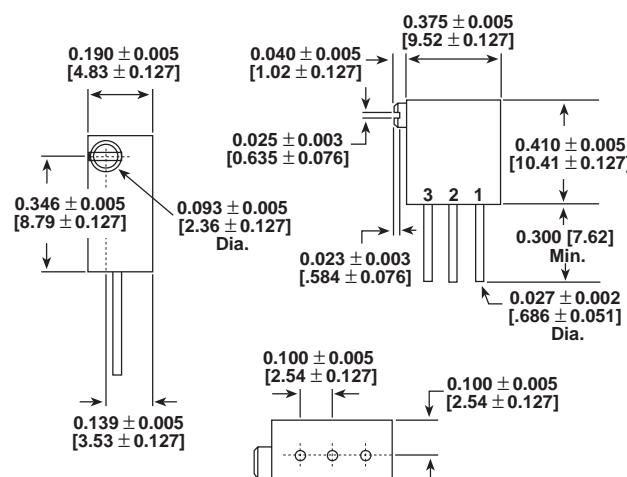


DIMENSIONAL CONFIGURATIONS 3/8" [9.52mm] Square [Numbers in brackets indicate millimeters]

W Lead Style - 151^s



X Lead Style - 176^s



ENVIRONMENTAL PERFORMANCE

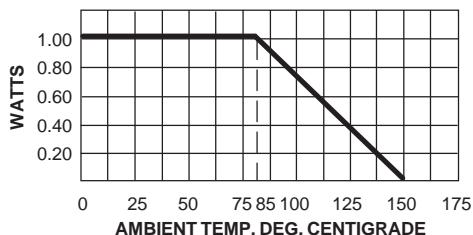
TEST ¹	CONDITIONS	MIL-PRF-39015 REQUIREMENT	TYPICAL CHANGE
Power Conditioning	(108) 50 hours at 1 watt at + 25°C	ΔR ≤ 0.5% ²	ΔR < 0.08%
Thermal Shock	(107) 5 cycles, -55°C to + 125°C	ΔR ≤ 1.0% ²	ΔR < 0.07%
Low Temperature Storage	72 hours, no load at - 65°C	ΔR ≤ 1.0% ²	ΔR < 0.05%
Low Temperature Operation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

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

²For values below 100 ohms, add 0.05 ohm to the allowable change.

³The referenced tests also require that setting stability change shall not exceed ± 0.05 percent plus the specified maximum resolution.

DERATING



HOW TO ORDER

117^s
MODEL

117^s = Teflon Leadwire
126^s = PC Mount
151^s = Top Adjustment Screw
176^s = Side Adjustment Screw

501
VALUE

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