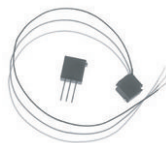


Multi-Turn 3/8" (9.52 mm) Square Wirewound Trimmers



ELECTRICAL SPECIFICATIONS

Electrical travel	22 turns $\pm$ 4 turns
Resistance range	10 Ω to 10 k Ω (extended range available in non MIL-SPEC product)
Resistance tolerance	$\pm$ 5 % standard (closer tolerances available)
Temperature coefficient (-65 °C to +150 °C)	$\pm$ 50 ppm/°C
Power rating	1.0 W at +85 °C derated to 0 W at +150 °C, these specifications exceed MIL-SPEC
End resistance	1 Ω or 2 %, whichever is greater
Equivalent noise resistance (ENR)	100 Ω maximum
Dielectric (DWV)	1000 V _{AC} at atmospheric pressure These specifications exceed MIL-SPEC
Insulation resistance	> 100 000 M Ω (500 V _{DC}) these specifications exceed MIL-SPEC

ENVIRONMENTAL SPECIFICATIONS

Temperature limits: -65 °C to +150 °C

Sealing: fully sealed case (non-hermetic)

MECHANICAL SPECIFICATIONS

Operating torque: 5 oz.-inches maximum

Rotation: clutch stop, wiper idles

Weight: 0.935 g maximum

Resistive element: nickel chromium

Rotational life: 200 cycles minimum

Terminal strength: 2 lbs for 10 s

FEATURES

- Precious metal wiper
- 1.0 W to +85 °C
- TCR $\pm$ 50 ppm/°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.

STANDARD RESISTANCE VALUES

RESISTANCE ⁽¹⁾ (Ω)	NOMINAL RESOLUTION (%)
10	1.10
20	0.85
50	0.65
100	0.51
200	0.40
500	0.45
1K	0.34
2K	0.27
5K	0.20
10K	0.16
20K	0.13

Note

⁽¹⁾ Other resistances available upon request

CIRCUIT DIAGRAM



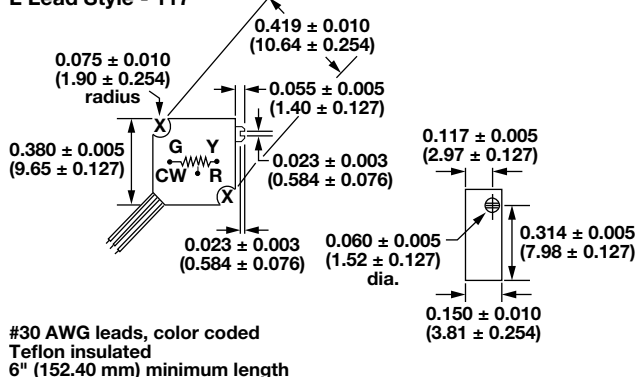
GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: 117S-102 (preferred part number format)

1	1	7	S	-	1	0	2
GLOBAL MODEL			TYPE			RESISTANCE VALUE	
117 = teflon leadwire			/ = continuous rotation S = clutch stop			From 10 Ω to 10 k Ω example 102 = 1 k Ω 502 = 5 k Ω 103 = 10 k Ω	

Historical part numbering: 117s501 (will continue to be accepted)

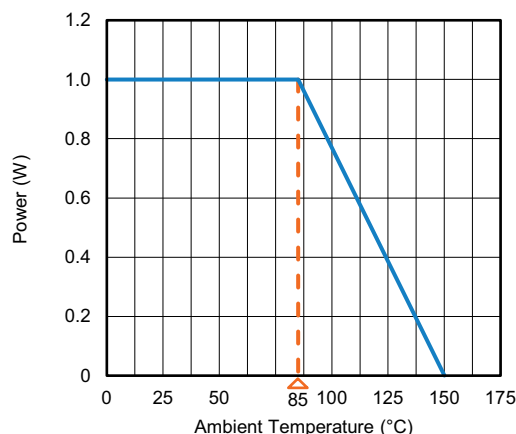
117	s	501
HISTORICAL MODEL	TYPE	RESISTANCE VALUE

DIMENSIONS 3/8" (9.52 mm) SQUARE in inches (millimeters)
L Lead Style - 117^S

ENVIRONMENTAL PERFORMANCE

TEST ⁽¹⁾	CONDITIONS	MIL-PRF-39015 REQUIREMENT	TYPICAL CHANGE
Power conditioning (108)	50 h at 1 W 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 h, no load at -65 °C	$\Delta R \leq 1.0 \% ^{(2)}$	$\Delta R < 0.05 \%$
Low temperature operation	1 h storage, 45 min rated power at -55 °C	$\Delta R \leq 1.0 \% ^{(2)(3)}$	$\Delta R < 0.08 \%$
High temperature exposure	1000 h, no load at +150 °C	$\Delta R \leq 1.0 \% ^{(2)(3)}$	$\Delta R < 0.03 \%$
Moisture resistance (106)	480 h 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 s	$\Delta R \leq 1.0 \% ^{(2)}$	$\Delta R < 0.02 \%$
Shock (213)	18 shocks, 100 g, 6 ms, sawtooth, 3 axes	$\Delta R \leq 1.0 \% ^{(2)(3)}$	$\Delta R < 0.27 \%$
Vibration (204)	10 Hz to 2000 Hz, 20 g, 12 h, 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 h at rated power at +85 °C	$\Delta R \leq 3.0 \%$	$\Delta R < 0.23 \%$

Notes

- (1) Numbers in parenthesis refer to test method MIL-STD-202 as modified by the detail specification
- (2) For values below 100 W, add 0.05 W to the allowable change
- (3) The referenced tests also require that setting stability change shall not exceed $\pm 0.05 \%$ plus the specified maximum resolution

DERATING

ACCESSORIES

Screwdrivers (to order separately)

www.vishay.com/doc?57015



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