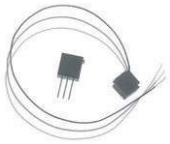
Multi-Turn 3/8" (9.52 mm) Square Wirewound Trimmers



FEATURES

- Precious metal wiper
- 1.0 W to +85 °C
- TCR ± 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.

ELECTRICAL SPECIFICATIONS

Electrical travel	22 turns ± 4 turns
Resistance range	10 Ω to 10 kΩ (extended range available in non MIL-SPEC product)
Resistance tolerance	± 5 % standard (closer tolerances available)
Temperature coefficient (-65 °C to +150 °C)	± 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 MΩ (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

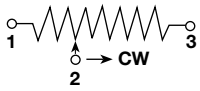
STANDARD RESISTANCE VALUES

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: 117S500RB (preferred part number format)

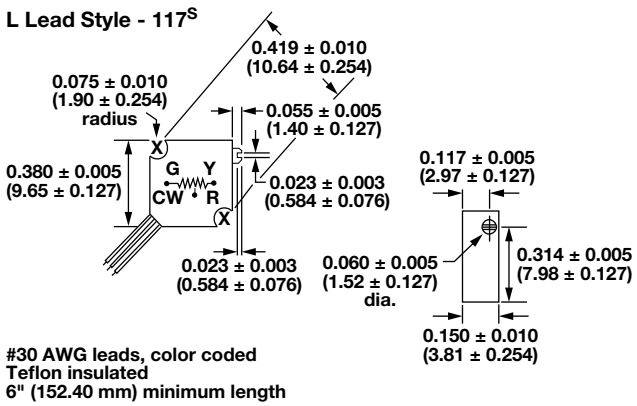
1	1	7	S	5	0	0	R	B

GLOBAL MODEL	TYPE	RESISTANCE VALUE	PACKAGING
117 = teflon leadwire	**/** = continuous rotation **S** = clutch stop	**R** = decimal **K** = thousand **100R** = 100 Ω **5K00** = 5 kΩ	**B** = bulk

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)



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	$\Delta R \leq 3.0$ %	$\Delta R < 0.23$ %

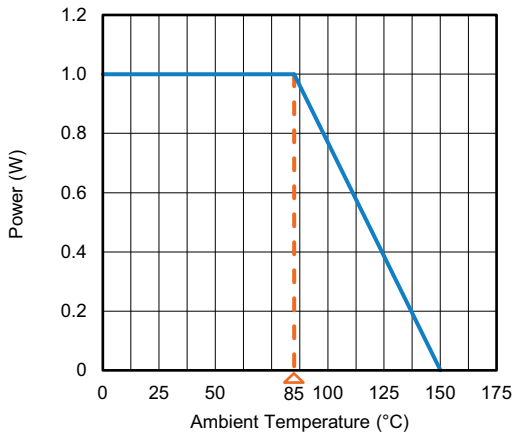
Notes

(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 ± 0.05 % plus the specified maximum resolution

DERATING



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