1/4" (6.35 mm) Square 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 turns ± 4 turns
Resistance range: 10 Ω to 5 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: 0.5 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

MECHANICAL SPECIFICATIONS

Operating torque: 3 oz.-inches maximum, 17S and 18S, 5 oz.-inches maximum, 12S, 14S and 15S
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
- 0.25 W to + 85 °C
- TCR < 50 ppm/°C
- Solderable leads
- Special configurations available
- Military quality at affordable prices

ENVIRONMENTAL SPECIFICATIONS

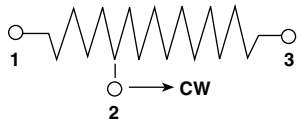
Temperature limits: - 65 °C to + 175 °C
Sealing: Fully sealed case (non-hermetic)

STANDARD RESISTANCE VALUES

RESISTANCE [1] (Ω)	NOMINAL RESOLUTION (%)
10	1.65
20	1.35
50	1.13
100	0.82
200	0.62
500	0.62
1K	0.49
2K	0.34
5K	0.27
10K	0.21
20K	0.17
25K	0.16

Note
[1] Other resistances available upon request

CIRCUIT DIAGRAM



GLOBAL PART NUMBER INFORMATION

New global part numbering: 12S500RB (preferred part number format)

1	2	S	5	0	0	R	B

GLOBAL MODEL
12 = Top adjustment screw
14 = Side adjustment screw
15 = PC mount
17 = Top adjustment screw
18 = Side adjustment screw

TYPE
/ = Continuous rotation
S = Clutch stop

RESISTANCE VALUE
R = Decimal
K = Thousand
100R = 100 Ω
5K00 = 5 kΩ

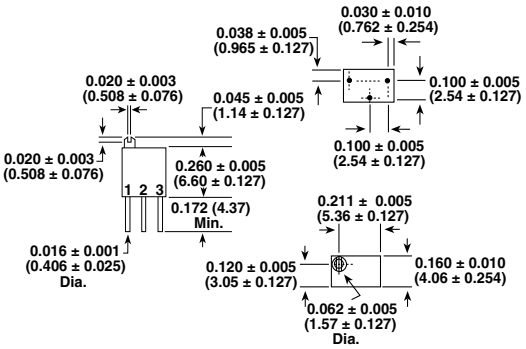
PACKAGING
B = Bulk

Historical part numbering: 12s501 (will continue to be accepted)

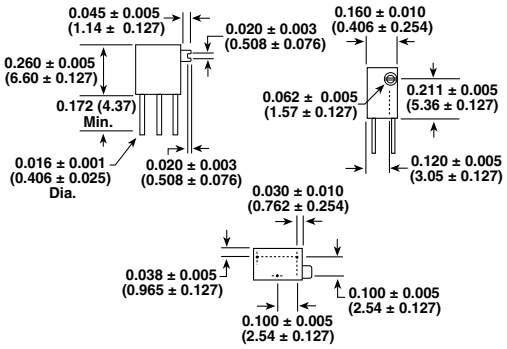
12	s	501
HISTORICAL MODEL	TYPE	RESISTANCE VALUE

DIMENSIONS 1/4" (6.35 mm) Square in inches (millimeters)

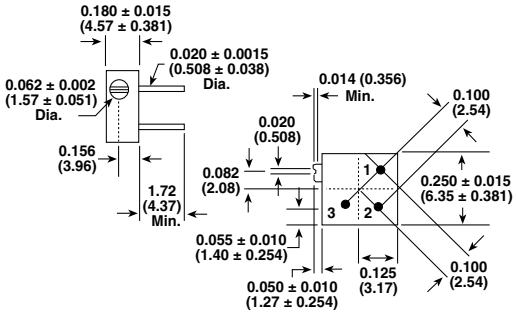
W Lead Style - 17S



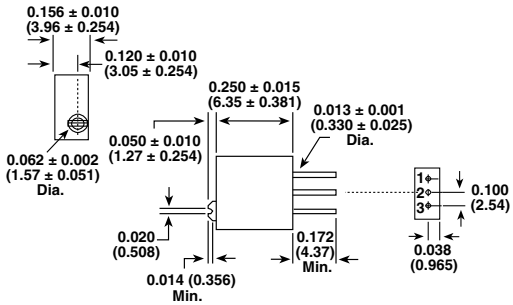
X Lead Style - 18S



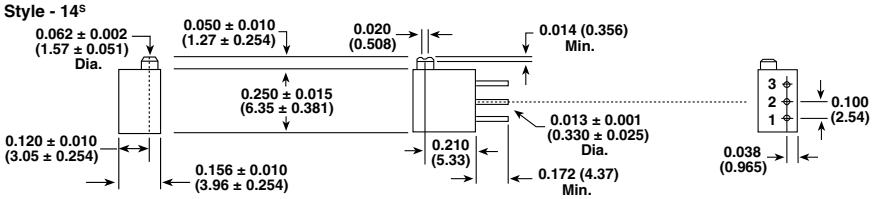
P Lead Style - 15S



W Lead Style - 12S



X Lead Style - 14S



ENVIRONMENTAL PERFORMANCE

TEST (1)		CONDITIONS	MIL-R-27208 REQUIREMENT	TYPICAL CHANGE
Thermal shock	(107)	5 cycles, - 55 °C to + 125 °C	$\Delta R \leq 1.0$ % (2)	$\Delta R < 0.02$ %
Low temperature operation		1 h storage, 45 min rated power at - 55 °C	$\Delta R \leq 1.0$ % (2)(3)	$\Delta R < 0.01$ %
High temperature exposure		250 h, no load at + 150 °C	$\Delta R \leq 1.0$ % (2)(3)	$\Delta R < 0.03$ %
Moisture resistance	(106)	240 h at rated power with humidity ranging from 80 % RH to 98 % RH	$\Delta R \leq 1.0$ % (2)	$\Delta R < 0.02$ %
Resistance to soldering heat	(210)	+ 350 °C for 3 s	$\Delta R \leq 1.0$ % (2)	$\Delta R < 0.01$ %
Shock	(213)	18 shocks, 100 g, 6 ms, sawtooth, 3 axes	$\Delta R \leq 1.0$ % (2)(3)	$\Delta R < 0.07$ %
Vibration	(204)	10 Hz to 2000 Hz, 20 g, 12 h, 3 axes	$\Delta R \leq 1.0$ % (2)(3)	$\Delta R < 0.02$ %
Rotational life		200 cycles	$\Delta R \leq 2.0$ %	$\Delta R < 0.04$ %
Load life	(108)	1000 h at rated power at + 85 °C	$\Delta R \leq 2.0$ %	$\Delta R < 0.12$ %

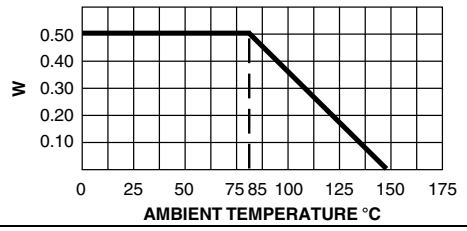
Notes

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

(2) For values below 100 Ω, add 0.05 Ω to the allowable change.

(3) The referenced tests also require that setting stability change shall not exceed ± 1.0 % plus the specified maximum resolution and operating torque shall not exceed 150 % of the specified maximum.

DERATING



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.

Как с нами связаться

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