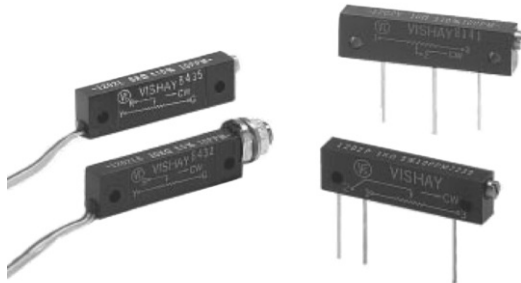


Bulk Metal® Foil Technology

Precision Trimming Potentiometers, 1 1/4 Inch Rectilinear, RJ12 Style, Designed to Meet or Exceed The Requirements of MIL-PRF-22097, Char. F



FEATURES

- Temperature coefficient of resistance (TCR): ± 10 ppm/°C maximum³⁾ (- 55 °C to + 150 °C ref. at + 25 °C); through the wiper⁴⁾; ± 25 ppm/°C
- Load life stability: 0.1 % typical ΔR , 0.5 % maximum ΔR under full rated power at + 85 °C for 2000 h
- Settability: 0.05 % typical; 0.1 % maximum
- Setting stability: 0.1 % typical; 0.5 % maximum, ΔSS
- Power rating: 0.5 W at + 85 °C
- Resistance range: 2 Ω to 20 k Ω
- "O"-ring prevents ingress of fluids during any board cleaning operation
- Electrostatic discharge: above 25 000 V
- Terminal finishes available: gold plated



RoHS*
COMPLIANT

TABLE 1 - MODEL SELECTION†				
MODEL	TERMINATION STYLE	AVERAGE WEIGHT (g)	POWER RATING at + 85 °C AMBIENT	NO. OF TURNS
1202	P-In line PC pins	2.5	0.5 W	25 \pm 2
	Y-staggered PC pins ¹⁾	2.5		
	L-flexible wire leads	3.3		
	LB-flexible wire leads with bushings	5.1		

Note

1. See Figures 1 and 2.

TABLE 2 - VALUES VS. TOLERANCES	
STANDARD RESISTANCE VALUES (in Ω)	STANDARD TOLERANCES
2, 5, 10	± 10 % ²⁾ , ± 20 %
20, 50, 100, 200, 250, 500, 1K, 2K, 5K, 10K, 20K	5 %, 10 %

TABLE 3 - 1202 (RJ12) SERIES ELECTRICAL SPECIFICATIONS	
Temperature Coefficient of Resistance (TCR) end-to-end ³⁾ 2 Ω , 5 Ω , 10 Ω , 20 Ω through the wiper ⁴⁾	± 10 ppm/°C maximum (- 55 °C to + 25 °C) ± 10 ppm/°C maximum (+ 25 °C to + 150 °C) ± 20 ppm/°C ± 25 ppm/°C
Stability load life at 2000 h† load life at 10 000 h†	0.1 % typical ΔR ; 0.5 % maximum ΔR 0.1 % typical ΔR ; 1.0 % maximum ΔR
Power Rating⁵⁾	0.5 W at + 85 °C
Settability	0.05 % typical; 0.1 % maximum
Setting Stability	0.1 % typical; 0.5 % maximum ΔSS
Contact Resistance variation - CRV (noise)	3 Ω typical; 10 Ω maximum
Hop-off	0.25 % typical; 1.0 % maximum
High-Frequency Operation Rise time Inductance Capacitance	to 100 MHz 10 ns at 1 k Ω 0.08 μ H typical 0.5 pF typical
Operating Temperature Range	- 55 °C to + 150 °C

Notes

- † Under full rated power of 0.5 W at + 85 °C.
- Refer to page 4 for footnotes.

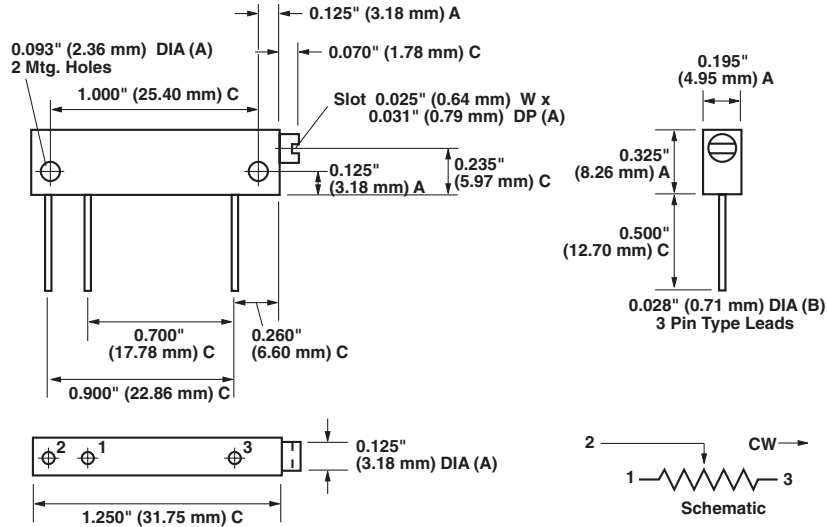
TABLE 4 - MECHANICAL SPECIFICATIONS			
Adjustment Turns	25 \pm 2	Case Material	Glass fortified diallyl-phthalate (DAP); black
Mechanical Stops	Wiper idles - no discontinuity	Shaft Torque	8 oz. in. maximum; 3 oz. in. typical
Internal Terminations	All welded - no flux	Backlash	0.05 % typical

* Pb containing terminations are not RoHS compliant, exemptions may apply

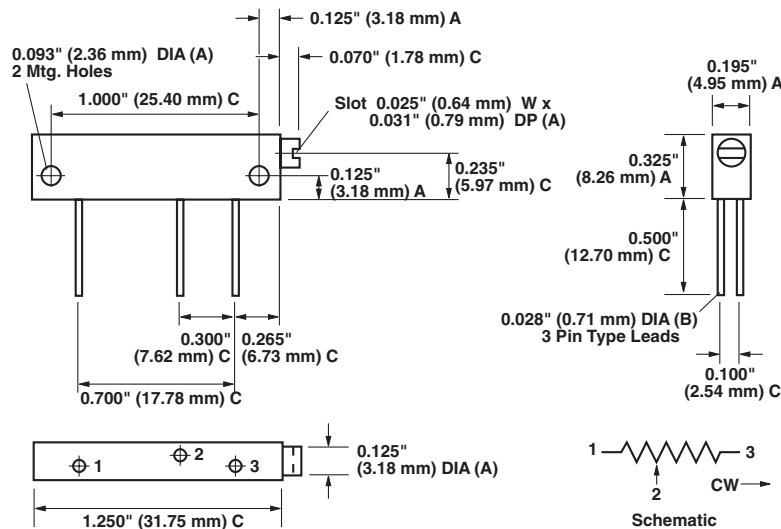
Vishay Foil Resistors Bulk Metal® Foil Technology Precision Trimming Potentiometers, 1 1/4 Inch Rectilinear, RJ12 Style, Designed to Meet or Exceed The Requirements of MIL-PRF-22097, Char. F

FIGURE 1 - SCHEMATIC AND DIMENSIONS in inches (millimeters)

1202P
(In-Line Pins)¹⁾



1202Y
(Staggered Pins)¹⁾



TOLERANCES

- A = ± 0.005" (0.13 mm)
- B = ± 0.003" (0.08 mm)
- C = ± 0.010" (0.25 mm)

Note

1. Pin leads are gold plated nickel which are solderable or weldable.

STANDARD MARKING ILLUSTRATION

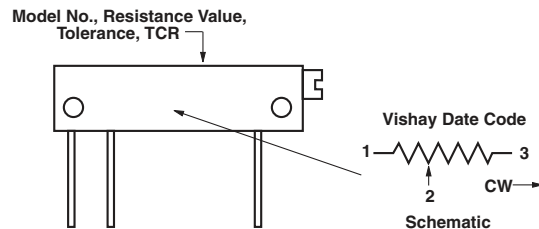
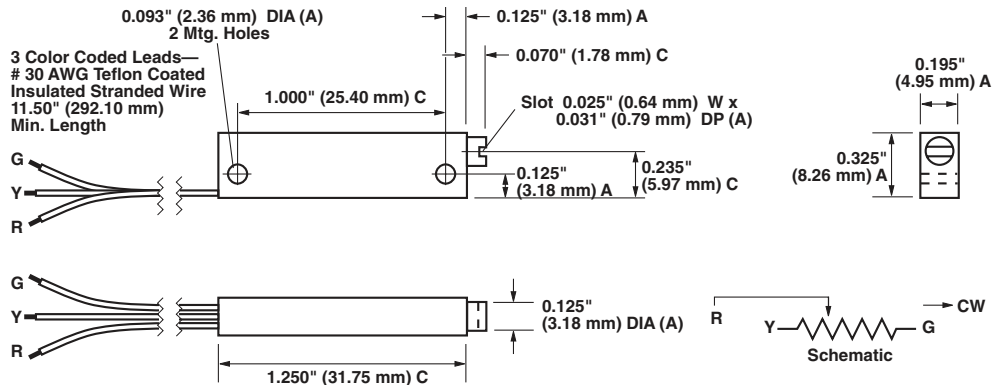
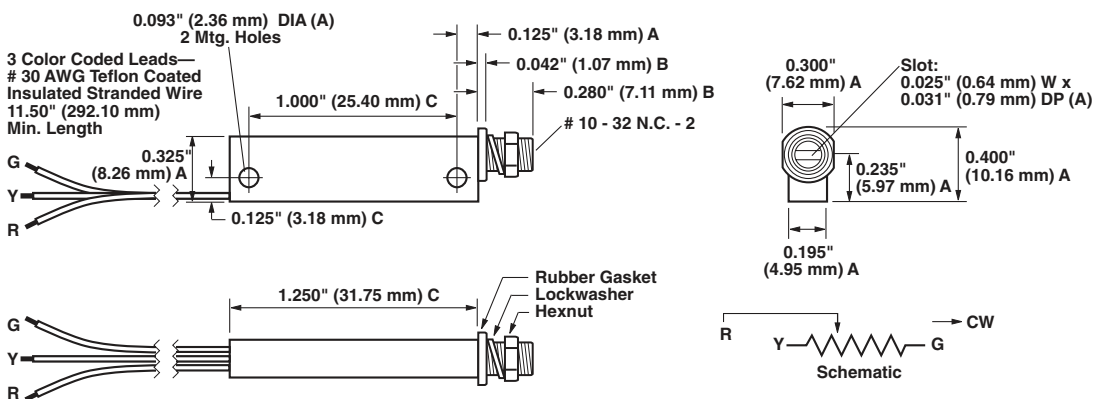


FIGURE 2 - SCHEMATIC AND DIMENSIONS in inches (millimeters)

1202L
 (Flexible Leads)



1202LB
 (Panel Mounted)

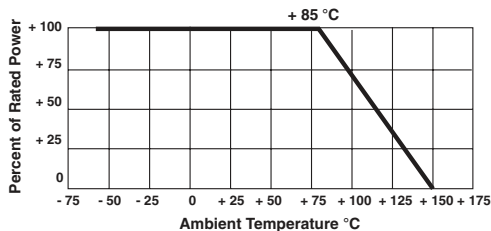


TOLERANCES

- A = ± 0.005" (0.13 mm)
- B = ± 0.003" (0.08 mm)
- C = ± 0.010" (0.25 mm)

Standard marking shown on previous page.

FIGURE 3 - POWER DERATING CURVE



Vishay Foil Resistors Bulk Metal® Foil Technology Precision Trimming
Potentiometers, 1 1/4 Inch Rectilinear, RJ12 Style, Designed to
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TABLE 5 - COMPARISON		
	MIL-PRF-22097/2 CHARACTERISTIC F⁷⁾	1202 MAXIMUM (Worst Case)
TEST GROUP I Visual and mechanical Total resistance Actual effective electrical travel End resistance Contact resistance variation - CRV (noise) Dielectric withstanding voltage - DWV (atmospheric and barometric pressure) Insulation resistance Shaft torque Thermal shock	No failures ± 10 % 17 to 27 turns ± 2 % or 20 Ω ⁷⁾ ± 3.0 % or 3 Ω ⁷⁾ Per MIL-STD-202, methods 301 and 105 ≥ 1000 MΩ 8 oz. in. maximum ± 1.0 %	No failures ± 10 % 25 ± 2 turns 2 Ω 3 Ω typical, 10 Ω maximum Per MIL-STD-202, methods 301 and 105 ≥ 1000 MΩ 8 oz. in. maximum ± 1.0 %
TEST GROUP II Resistance temperature characteristic - TCR Moisture resistance Contact resistance variation - CRV (noise)	± 0.01 % (± 100 ppm/°C) ± 1.0 % 3.0 % or 3 Ω ⁷⁾	± 0.001 % (± 10 ppm/°C) ± 0.5 % 3 Ω typical, 10 Ω maximum
TEST GROUP III Shock (specified pulse) Vibration (high-frequency) Contact resistance variation - CRV (noise) Salt spray	± 1.0 % ± 1.0 % ± 3.0 % or 3 Ω ⁷⁾ No corrosion	± 0.5 % ± 0.5 % 3 Ω typical, 10 Ω maximum No corrosion
TEST GROUP IV Solder heat Life (1000 h at + 85 °C) ⁸⁾ Contact resistance variation - CRV (noise)	± 1.0 % ± 2.0 % ± 3.0 % or 3 Ω ⁷⁾	± 0.05 % ± 0.5 % 3 Ω typical, 10 Ω maximum
TEST GROUP V Low-temperature operation High-temperature exposure Contact resistance variation - CRV (noise)	± 1.0 % ± 2.0 % ± 3.0 % or 3 Ω ⁷⁾	± 0.5 % ± 0.5 % 3 Ω typical, 10 Ω maximum
TEST GROUP VI Rotational life Contact resistance variation - CRV (noise) Terminal strength	± 2.0 % ± 3.0 % or 3 Ω ⁷⁾ 2 lbs	± 2.0 % 3 Ω typical, 10 Ω maximum 2 lbs
TEST GROUP VII Solderability (excluding termination L) Immersion (excluding termination L)	MIL-STD-202 method 208 No continuous stream of bubbles	MIL-STD-202 method 208 No continuous stream of bubbles
TEST GROUP VIII Fungus	MIL-STD-810 method 508 No mechanical damage	MIL-STD-810 method 508 No mechanical damage

Notes

- Preferred Termination style for current 1-1/4 inch rectilinear trimmers (staggered PC pins present a sturdier mounting arrangement for shock, vibration, and impact situations).
- 10 W at ± 5 % available on special order.
- Maximum TCR applies to the 3 σ (sigma) limit or 99.73 % of a production lot. (Measured end-to-end with wiper off the element.)
- Measurements of TCR through the wiper are influenced more by setting stability and the percentage of the total resistance in use (at the wiper) than by fundamental resistance change due to temperature alone. The parameter shown in Table 3 is a 2 σ distribution typifying the behavior of the device when used with 40 % or more of the total resistance in use.
- Derated linearly from full power at + 85 °C to zero (0) W at + 150 °C. See Figure 3 in this data sheet.
- All ΔR's are measured to the tolerance specified + 0.01 Ω.
- Whichever is greater.
- Load-Life test performed at nominal rated power, 0.5 W, at + 85 °C.

Special Available Options:

- Special marking
- Special lengths for lead wires (L, LB Style)
- Hooked leads
- Alternate bushing and PC combinations
- Power conditioning and screening operations

VISHAY TRIMMERS ARE INSPECTED

100 % for:

- Short-time overload (6.25 x rated power for 5 s on; and for 30 s off - 3 cycles)
- Immersion
- Resistance tolerance check
- End resistance
- Visual-mechanical
- Dynamic tests for continuity, CRV

By Sample for:

- TCR
- DWV

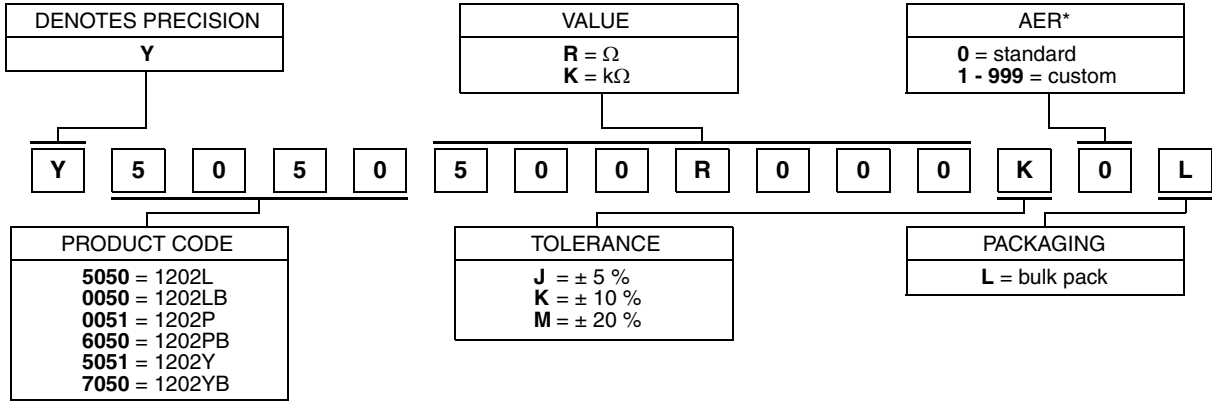


Bulk Metal® Foil Technology Precision Trimming
 Potentiometers, 1 1/4 Inch Rectilinear, RJ12 Style, Designed to
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Vishay Foil Resistors

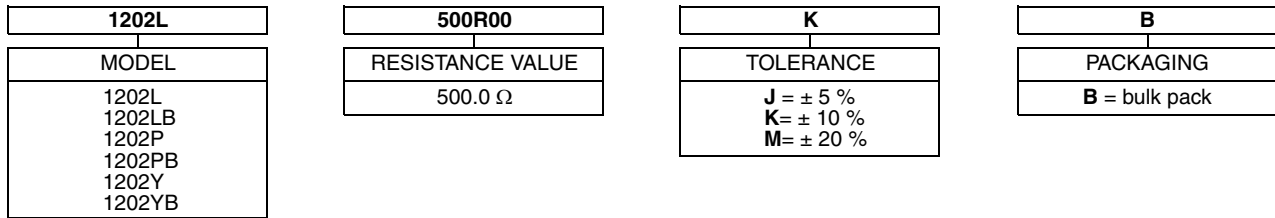
TABLE 6 - GLOBAL PART NUMBER INFORMATION

NEW GLOBAL PART NUMBER: Y5050500R000K0L (preferred part number format)



FOR EXAMPLE: ABOVE GLOBAL ORDER Y5050 500R000 K 0 L:
 TYPE: 1202L
 VALUE: 500.0 Ω
 ABSOLUTE TOLERANCE: $\pm 10.0\%$
 AER: standard
 PACKAGING: bulk pack

HISTORICAL PART NUMBER: 1202L 500R00 K B (will continue to be used)



Note

* For non-standard requests, please contact Application Engineering.



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