



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



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 ± 2	
	Y-staggered PC pins ¹⁾	2.5			
	L-flexible wire leads	3.3			
	LB-flexible wire leads with bushings	5.1			

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



RoHS*

- 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, ∆SS
- 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

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 %			

Note

1. See Figures 1 and 2.

TABLE 3 - 1202 (RJ12) SERIES ELECTRICAL SPECIFICATIONS				
Temperature Coefficient of Resistance (TCR) end-to-end ³⁾	± 10 ppm/°C maximum (- 55 °C to + 25 °C) ± 10 ppm/°C maximum (+ 25 °C to + 150 °C)			
2 Ω , 5 Ω , 10 Ω , 20 Ω through the wiper $^{4)}$	± 20 ppm/°C ± 25 ppm/°C			
Stability load life at 2000 h [†] load life at 10 000 h [†]	0.1 % typical Δ R; 0.5 % maximum Δ R 0.1 % typical Δ R; 1.0 % maximum Δ R			
Power Rating ⁵⁾	0.5 W at + 85 °C			
Settability	0.05 % typical; 0.1 % maximum			
Setting Stability	0.1 % typical; 0.5 % maximum ∆SS			
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 kΩ 0.08 μH 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.

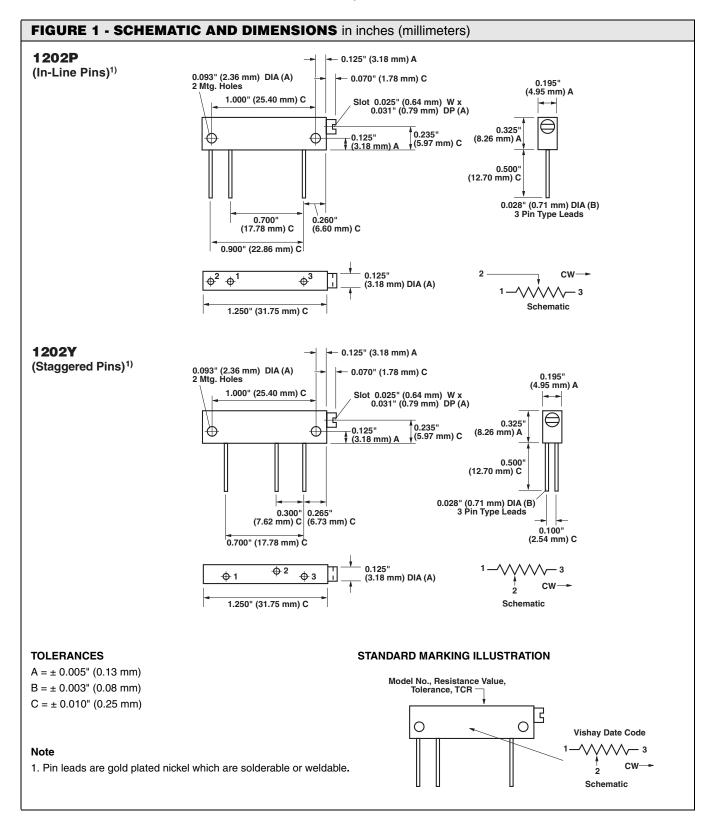
TABLE 4 - MECHANICAL SPECIFICATIONS					
Adjustment Turns	25 ± 2	Case Material	Glass fortified diallyl-phthalate (DAP); black		
Mechanical Stops	Wiper idles - no discontinuity	Shaft Torque	8 oz. in. maximum; 3 oz. in. typical		
Internal Terminations	All welded - no flux	Backlash	0.05 % typical		

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



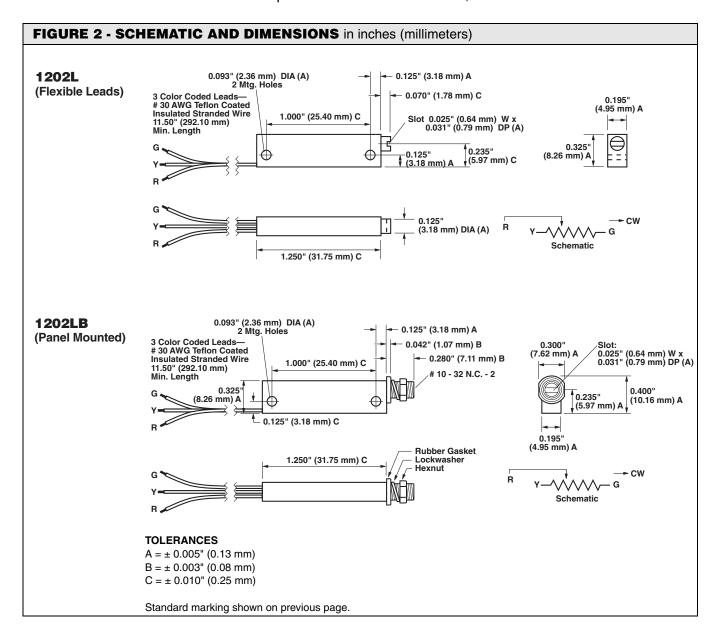
Vishay Foil Resistors

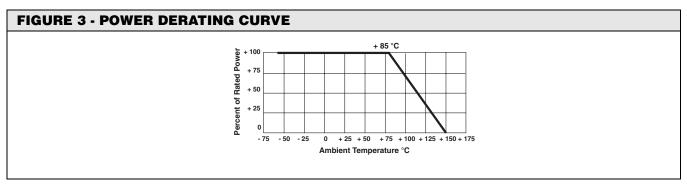
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Bulk Metal[®] Foil Technology Precision Trimming Vishay Foil Resistors Potentiometers, 1 1/4 Inch Rectilinear, RJ12 Style, Designed to Meet or Exceed The Requirements of MIL-PRF-22097, Char. F





Vishay Foil Resistors

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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	No failures ± 10 %	No failures ± 10 %		
Actual effective electrical travel End resistance	17 to 27 turns ± 2 % or 20 Ω^{7})	$25 \pm 2 \text{ turns}$ 2Ω		
Contact resistance variation - CRV (noise) Dielectric withstanding voltage - DWV (atmospheric and barometric pressure)	\pm 3.0 % or 3 $\Omega^{7)}$ Per MIL-STD-202, methods 301 and 105	$3~\Omega$ typical, $10~\Omega$ maximum Per MIL-STD-202, methods 301 and 105		
Insulation resistance Shaft torque Thermal shock	\geq 1000 M Ω 8 oz. in. maximum \pm 1.0 %	\geq 1000 M Ω 8 oz. in. maximum \pm 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⁾	\pm 0.001 % (\pm 10 ppm/°C) \pm 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⁾	\pm 0.05 % \pm 0.5 % $3~\Omega$ 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	\pm 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).
- 2. 10 W at ± 5 % available on special order.
- 3. 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.)
- 4. 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.
- 5. Derated linearly from full power at + 85 °C to zero (0) W at + 150 °C. See Figure 3 in this data sheet.
- 6. All ΔR 's are measured to the tolerance specified + 0.01 Ω .
- 7. Whichever is greater.
- 8. Load-Life test performed at nominal rated power, 0.5 W, at $+\ 85\ ^{\circ}\text{C}.$

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:

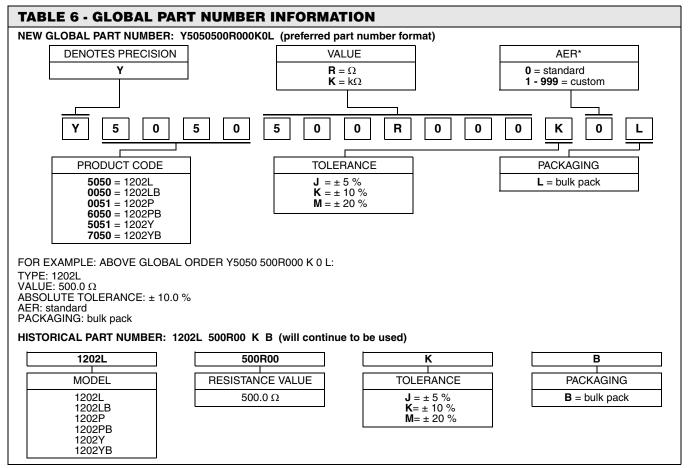
- TCR
- DWV

For any questions, contact: foil@vishay.com

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Note

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



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