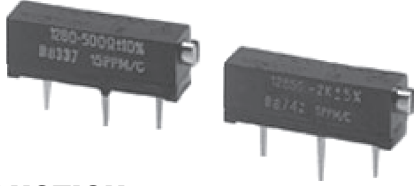


## Bulk Metal® Foil Technology Ultra High Precision Trimming Potentiometers $\frac{3}{4}$ " Rectilinear, $\pm 5 \text{ ppm}/^\circ\text{C}$ and $\pm 15 \text{ ppm}/^\circ\text{C}$ TCR with a Smooth and Unidirectional Output



### INTRODUCTION

Vishay Foil precision trimmers have the Bulk Metal® Foil resistive element which possesses a unique inherent temperature and load life stability. Plus, their advanced virtually backlash-free adjustment mechanism makes them easy to set quickly and accurately and keeps the setting exactly on target.



### FEATURES

- Temperature coefficient of resistance (TCR): (- 55 °C to + 125 °C ref. at + 25 °C)
  - $\pm 15 \text{ ppm}/^\circ\text{C}$  (model 1280G);
  - $\pm 5 \text{ ppm}/^\circ\text{C}$  (model 1285G)<sup>(3)</sup>;
  - through the wiper  $\pm 50 \text{ ppm}/^\circ\text{C}$
- A smooth and unidirectional resistance with leadscrew adjustment
- Load life stability: 0.5 % maximum  $\Delta R$  under full rated power at + 25 °C for 2000 h
- Electrostatic discharge (ESD) up to 25 000 V
- Settability: 0.05 % typical; 0.1 % maximum
- Setting stability: 0.1 % typical; 0.5 % maximum,  $\Delta SS$
- Power rating: 0.75 W at + 25 °C
- Resistance range: 10  $\Omega$  to 20 k $\Omega$
- Resistance tolerance:  $\pm 10 \%$ ,  $\pm 5 \%$
- Backlash: < 0.05 %
- Tap test: 0.05 % typical; 0.1 % maximum
- "O"-ring prevents ingress of fluids during any board cleaning operation
- Terminal finish: gold plated (tin/lead finish available on request)



RoHS  
COMPLIANT

**TABLE 1 - 1280G AND 1285G SERIES ELECTRICAL SPECIFICATIONS**

Resistance Tolerance	Model 1280G 10 % <sup>(1)</sup> , Model 1285G 5 %
Resistance Range	10 $\Omega$ to 20 k $\Omega$
TCR Model 1280G	$\pm 15 \text{ ppm}/^\circ\text{C}$ (- 55 °C to + 125 °C, ref. + 25 °C)
TCR Model 1285G <sup>(3)</sup>	$\pm 5 \text{ ppm}/^\circ\text{C}$ (- 55 °C to + 125 °C, ref. + 25 °C)
Power	0.75 W at + 25 °C derated linearly to 0 W at + 125 °C (see Fig. 2)
Settability	0.05 % typical; 0.1 % maximum
Setting Stability	0.1 % typical; 0.5 % maximum
Roll-on, Roll-off	0.25 % typical; 1.0 % maximum
Load Life Stability	0.5 % $\Delta R$ after 2000 h under full rated power at + 25 °C
End Resistance	2 $\Omega$ maximum
C.R.V. (noise) <sup>(2)</sup>	3 $\Omega$ typical; 10 $\Omega$ maximum
Frequency Characteristics	10 ns rise time at 1 k $\Omega$ to 100 MHz

#### Notes

- (1) 5 % available on special order
- (2) The 1280G can be screened for low noise, if required
- (3) For model 1285G 10  $\Omega$  and 20  $\Omega$  TCR is  $\pm 10 \text{ ppm}/^\circ\text{C}$
- (4) Panel mount available on special order

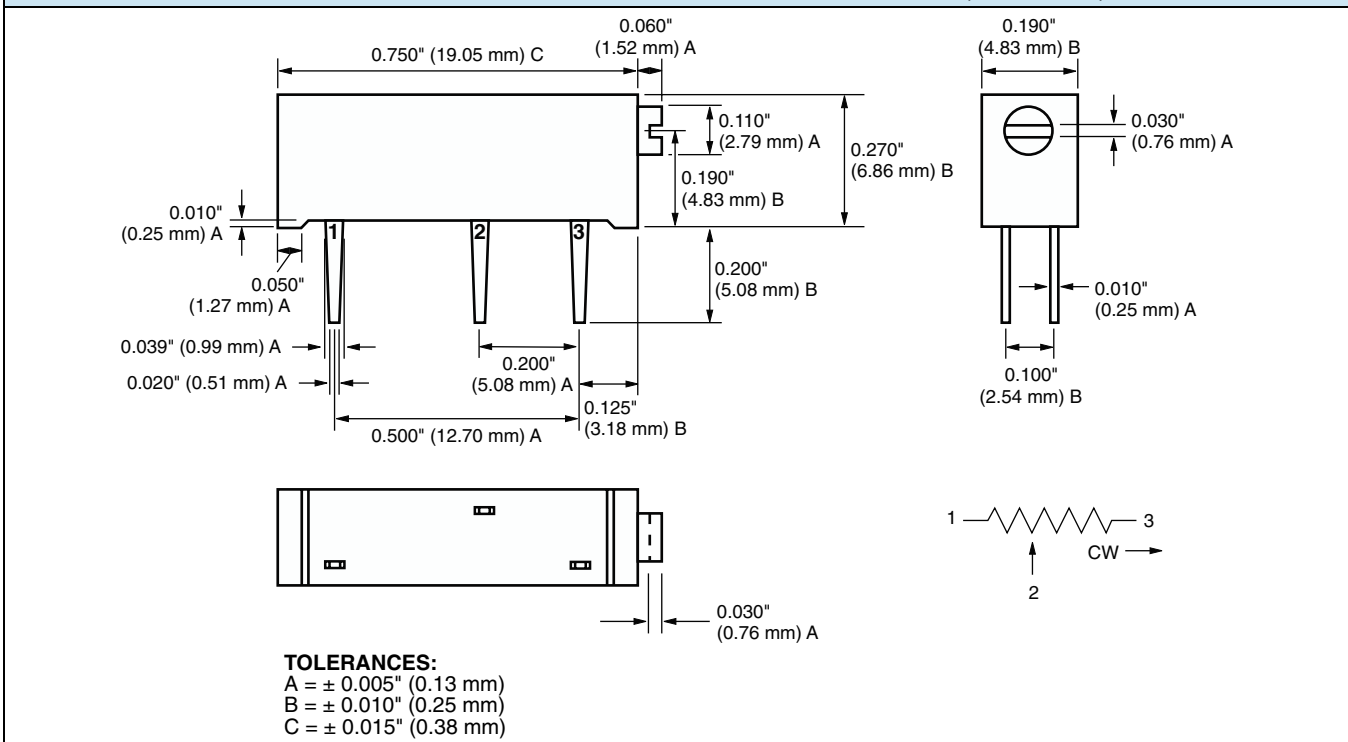
**TABLE 2 - STANDARD VALUE**

10 $\Omega$ , 20 $\Omega$ , 50 $\Omega$ , 100 $\Omega$ , 200 $\Omega$ , 500 $\Omega$ , 1 k $\Omega$ , 2 k $\Omega$ , 5 k $\Omega$ , 10 k $\Omega$ , 20 k $\Omega$
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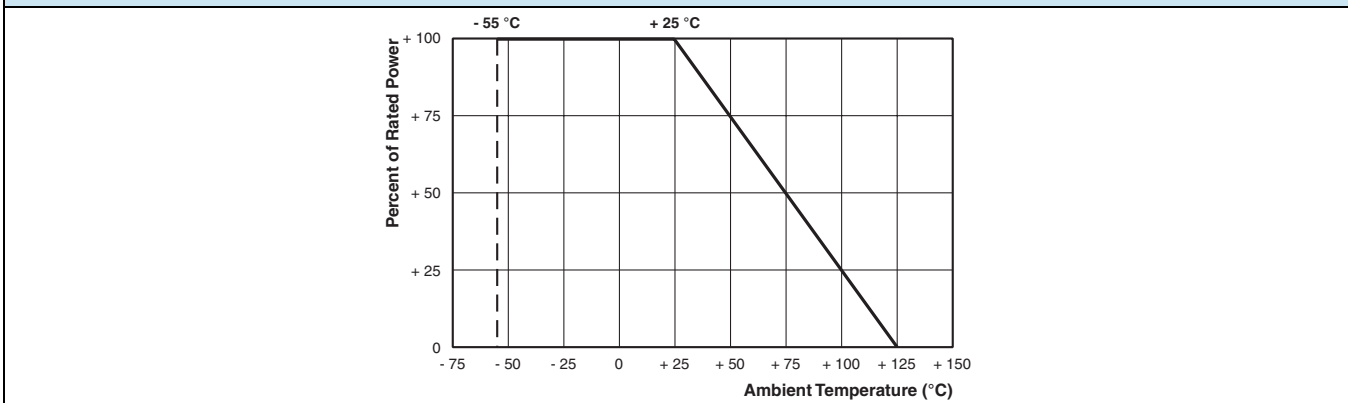
**TABLE 3 - 1280G AND 1285G SERIES MECHANICAL SPECIFICATIONS**

<b>Adjustment Turns</b>	26 ± 2 turns
<b>Backlash</b>	< 0.05 %
<b>Stops</b>	clutch, wiper idles
<b>Sealed</b>	+ 85 °C water immersion
<b>Torque</b>	5 oz. in. maximum
<b>Weight</b>	1.5 grams maximum
<b>Construction</b>	
Case Material	Valox®
Lead Screw	Brass
Wiper	Precious metal brush
Rider Block	Nylon
Element	Bulk Metal® Foil
Lead Material	Gold plated phosphor bronze

**FIGURE 1 - 1280G/1285G SCHEMATIC AND DIMENSIONS** in Inches (Millimeters)



**FIGURE 2 - POWER DERATING CURVE**



**TABLE 4 - GLOBAL PART NUMBER INFORMATION**

**NEW GLOBAL PART NUMBER: Y0056100R000K0L (preferred part number format)**



FOR EXAMPLE: ABOVE GLOBAL ORDER Y0056 100R000 K 0 L:

TYPE: 1280G

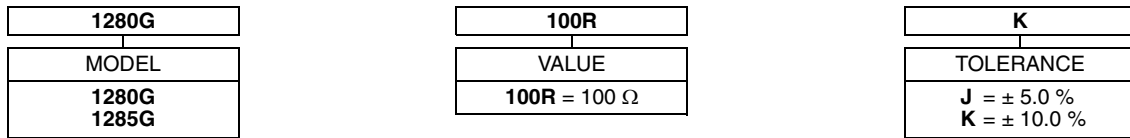
VALUES: 100.0 Ω

ABSOLUTE TOLERANCE: ± 10 %

TERMINATION: gold plated (lead (Pb)-free)

PACKAGING: foam/box pack

**HISTORICAL PART NUMBER: 1280G 100R K (will continue to be used)**



**Note**

(1) For non-standard requests or additional values, please contact application engineering.

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