### Vishay Foil Resistors



# Bulk Metal<sup>®</sup> Foil Technology Industrial Grade Miniature Voltage Divider



Temperate

 Temperature Coefficient of Resistance: Nominal TCR: ± 4ppm/°C (0° to 60°C)

• TCR Tracking: 1.5ppm/°C

• Ratio Stability:  $< \pm 0.001\%$  (10ppm) under load-life

conditions

**FEATURES** 

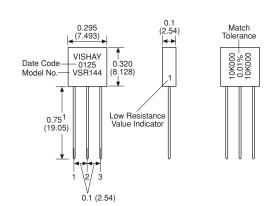
• Ratio Tolerance: to  $\pm 0.02\%$ 

The VSR144 is an industrial version of the 300144. This device has the stability that is inherent in foil but does not offer the tight match, TCR, or TCR tracking of the 300144. This product is quite satisfactory for most industrial purposes and should be considered when the total performance of the 300144 is not necessary.

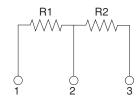
### FIGURE 1 - MODEL VSR144 STANDARD PRINTING AND DIMENSIONS in inches (millimeters)

#### Standard Printing and Dimensions

Product may not be to scale



Schematic <sup>2</sup>



Tolerance: ±0.010"

- 1. Lead wires: #22 AWG solder coated copper, 0.75" minimum length
- 2. Each resistor contains 1 chip consisting of two resistive elements.

#### **TABLE 1 - ORDERING INFORMATION - VSR144 PARTS**

Specify Vishay Industrial Grade Miniature Voltage Dividers as follows:

MODEL NUMBER	RESISTANCE VALUE*	ABSOLUTE TOLERANCE	RATIO MATCH TOLERANCE	TCR TRACKING
VSR144	$R1 = 10K\Omega$	± 0.05%	± 0.02%	1.5ppm/°C
V3N144	$R2 = 10K\Omega$	± 0.05%	± 0.02%	1.5ррп/ С

\*Specify the resistance value for each resistor of the set — even if all values are the same.

VISHAY FOIL • FRANCE +33.4.93.37.28.24 FAX: +33.4.93.37.27.31

- GERMANY +49.9287.710 FAX: +49 9287.70435
- ITALY + 39.2.300.11919 FAX: +39.2.300.11999 • JAPAN +81.42.729.0661 FAX: +81.42.729.3400
- JAPAN +81.42.729.0661 FAX: +81.42.729.3400
   SINGAPORE +65.788.6668 FAX: +65.788.0988
- SWEDEN +46.8.594.70590 FAX: +46.8.594.70581
- UK +44 191 514 8237 FAX: +44 1953 457 722
- USA +1 610 407-4800 FAX: +1 610 640-9081

\_\_\_\_

• ISRAEL +972.3.557.0945 FAX: +972.3.558.9121

000 000 11 010 407 4000 1777. 11 010 040 0001



### Bulk Metal® Foil Technology Industrial Grade Miniature Voltage Divider

## Vishay Foil Resistors

VISHAY MODEL	RESISTANCE RATIO AVAILABLE¹ (Ω)	POWER RATING <sup>2, 3</sup>	STANDARD RESISTANCE TOLERANCE			
			ABSOLUTE AVAILABLE TO	RATIO MATCH AVAILABLE TO	TCR TRACKING	SHELF LIFE STABILITY (ppm/yr)
VSR1443	100/12.3K 500/500 500/15K 800/800 1K/1K 1K/2K 1.5K/3K 2K/2K 2K/2K 2K/4K 2K/40K 2.7K/10K 3K/6K 5K/5K 5K/5N 6K/5K 10K/10K 10K/20K 10K/20K	0.2W @ + 85°C (for the entire resistive element R1 + R2) divided proportionally between the two elements.	± 0.02%	± 0.02%	< ± 1.5ppm/°C For Like Values < ± 2.0ppm/°C Standard	25

- 1. For resistance ratios not shown, contact Vishay's Applications Engineering Department. The VSR144 can be made available in any required ratio between the resistance values of 100 ohms and 20Kohms, such that R1 can be any value between 100 ohms and 20Kohms and R2 can also be any value between 100 ohms and 20Kohms. New art work is required.
- 2. Power is proportional to the divider ratio.

Example: In a VSR144 (1K/10K dual), the power rating would be 18mW on the 1K and 182mW on the 10K, for a total of 200 mW on R1 + R2.

$$P1 = \left(\frac{R1}{R1 + R2}\right)P \qquad \qquad P2 = \left(\frac{R2}{R1 + R2}\right)P$$

3. Maximum working voltage is 200 Volts.

• GERMANY +49.9287.710 FAX: +49 9287.70435

• ISRAEL +972.3.557.0945 FAX: +972.3.558.9121

<sup>•</sup> ITALY + 39.2.300.11919 FAX: +39.2.300.11999

<sup>•</sup> JAPAN +81.42.729.0661 FAX: +81.42.729.3400

<sup>•</sup> SINGAPORE +65.788.6668 FAX: +65.788.0988

<sup>•</sup> SWEDEN +46.8.594.70590 FAX: +46.8.594.70581

<sup>•</sup> UK +44 191 514 8237 FAX: +44 1953 457 722 • USA +1 610 407-4800 FAX: +1 610 640-9081

