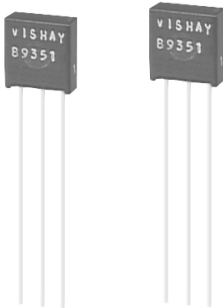


## Bulk Metal<sup>®</sup> Foil Technology Industrial Grade Miniature Voltage Divider



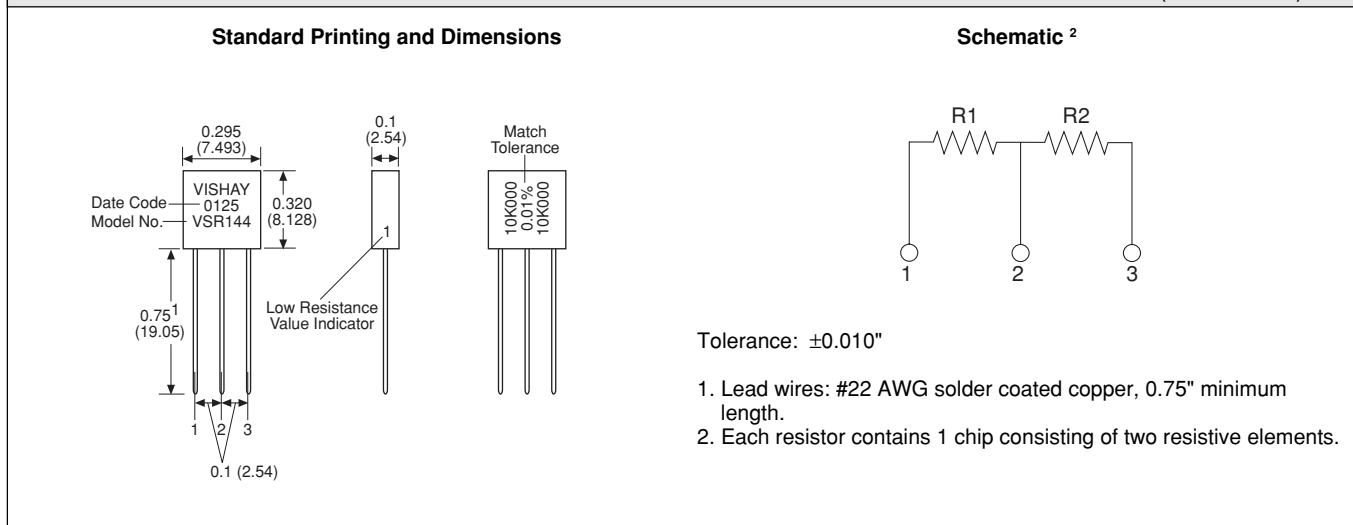
Product may not be to scale

### FEATURES

- Temperature Coefficient of Resistance: Nominal TCR:  $\pm 4\text{ppm}/^\circ\text{C}$  ( $0^\circ$  to  $60^\circ\text{C}$ )
- TCR Tracking:  $1.5\text{ppm}/^\circ\text{C}$
- Ratio Stability:  $< \pm 0.001\%$  (10ppm) under load-life conditions
- 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)



**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 $\Omega$ R2 = 10K $\Omega$	$\pm 0.05\%$ $\pm 0.05\%$	$\pm 0.02\%$	1.5ppm/ $^\circ\text{C}$

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



TABLE 2 - MODEL VSR144 SPECIFICATIONS						
VISHAY MODEL	RESISTANCE RATIO AVAILABLE <sup>1</sup> (Ω)	POWER RATING <sup>2,3</sup>	STANDARD RESISTANCE TOLERANCE		TCR TRACKING	SHELF LIFE STABILITY (ppm/yr)
			ABSOLUTE AVAILABLE TO	RATIO MATCH AVAILABLE TO		
VSR144 <sup>3</sup>	100/12.3K 500/500 500/15K 800/800 1K/1K 1K/2K 1.5K/3K 2K/2K 2K/3K 2K/4K 2K/20K 2.7K/10K 3K/6K 5K/5K 5K/10K 5.5K/7.7K 6K/6K 6K/20K 10K/10K 10K/20K 15K/15K 20K/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

THROUGH HOLE

- 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.
- 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.

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

- Maximum working voltage is 200 Volts.