

Bulk Metal[®] Foil Technology Conformally Coated Precision Resistor



Models VSH and VSC conformally coated resistors provide Bulk Metal[®] Foil performance for commercial applications at low cost. The VSH models can be used to replace wirewounds and metal films for additional and improved performance. Leads can be bent to replace an axial leaded component.

FEATURES

- Temperature Coefficient of Resistance (TCR): $\pm 5\text{ppm}/^\circ\text{C}$, -55°C to $+125^\circ\text{C}$
- Resistance range: 5Ω to $120\text{k}\Omega$
- Resistance Tolerance: to $\pm 0.01\%$
- Power Rating: 0.3 watt at $+70^\circ\text{C}$
- Load Life Stability: $\pm 0.05\%$ maximum ΔR at rated power and temperature for 1000 hours
- Low noise
- High frequency response
- Non-measurable voltage coefficient
- Low Thermal EMF: $0.1\mu\text{V}/^\circ\text{C}$ maximum

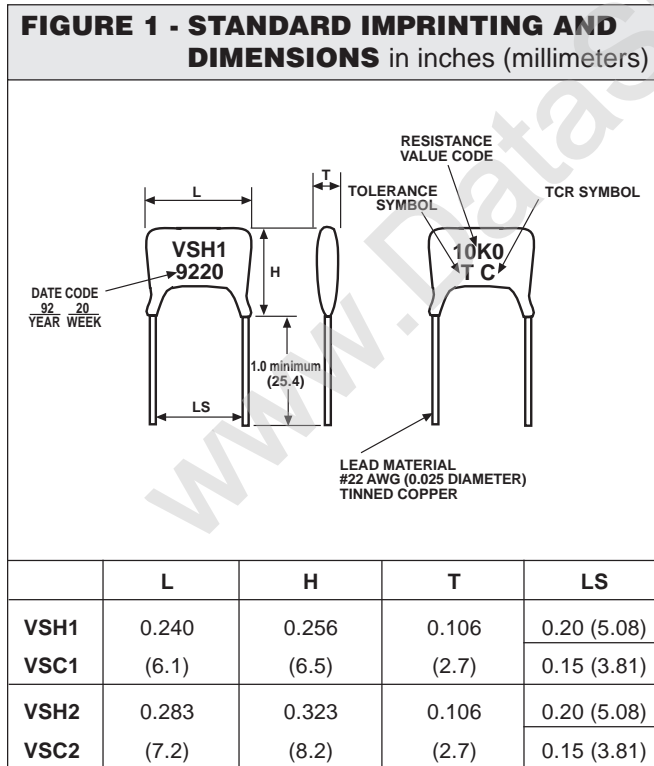


TABLE 1 - CHARACTERISTICS

MODEL	RESISTANCE RANGE Ω	TIGHTEST TOLERANCE %	POWER RATING AT $+70^\circ\text{C}$	MAXIMUM WORKING VOLTAGE
VSH1	5 to < 20	± 0.05	0.3 watts	300 volts
VSC1	20 to < 30	± 0.02		
VSH2	$> 60\text{K}$ to 120K	± 0.01		
VSC2				



TABLE 2 - PERFORMANCE SPECIFICATIONS

TEST	CONDITIONS	ΔR (%) - TYPICAL	ΔR (%) - MAXIMUM
TCR	- 55°C to + 125°C	± 5ppm/°C ± 10ppm/°C	
Power Rating at 70°C	0.3 watts	Note: Power derated to 0 watt at 150°C	
Low Temperature Storage	- 25°C, 2 hours	± 0.0025	± 0.05
High Temperature Exposure	+ 155°C, 1000 hours	± 0.01	± 0.05
Shelf Life	+ 15°C to + 35°C, 15 - 75% R.H., 10000 hours	± 0.005	± 0.02
Life (Moisture Load)	0.3 watts, + 40°C, 90 - 95% R.H., 1000 hours	± 0.01	± 0.05
Moisture Resistance	MIL-STD-202, Method 106	± 0.01	± 0.03
Pressure Cooker Test	2 atmospheres absolute pressure, 121°C, 100% R.H. for 100 hours	± 0.3	± 0.5
Overload	2.5 x rated voltage, 5 seconds	± 0.0025	± 0.05
Resistance to Solder Heat	+ 350°C, 3 seconds	± 0.01	± 0.03
Terminal Strength	1 pound, 10 seconds	± 0.0025	± 0.05
Insulation Resistance	100 volts, 1 minute	> 10,000 Meg	> 10,000 Meg
Dielectric Withstanding Voltage	300 volts, 1 minute	± 0.0025	± 0.03
Thermal Shock	- 25°C to +155°C, 5 cycles	± 0.01	± 0.05
Shock	MIL-STD-202, Method 213, condition A	± 0.005	± 0.03
Vibration	MIL-STD-202, Method 201	± 0.01	± 0.03
Load Life	0.3 watts, + 70°C, 1000 hours	± 0.01	± 0.05
Thermal EMF	-	0.07μV/°C	0.1μV/°C
Current Noise	Quan-Tech	- 42dB	- 32dB

TABLE 3 - ORDERING INFORMATION

Please specify Vishay VSH or VSC series as follows:

<u>MODEL</u>	<u>RESISTANCE VALUE*</u>	<u>MODEL</u>	<u>TEMPERATURE COEFFICIENT</u>
VSH1	10K000	0.01%	± 5ppm/°C

*The letter R or K is used as a multiplier and decimal point as follows:

<u>RESISTANCE RANGE</u>	<u>LETTER DESIGNATOR</u>	<u>MULTIPLIER FACTOR</u>	<u>EXAMPLE</u>
5Ω to < 1KΩ	R	x 1	100R01 = 100.01Ω
1KΩ to 120KΩ	K	x 10 ³	10K731 = 10,731Ω

*Note: Four spaces available for ohmic value print.