

Wirewound Resistors, Open Air, Current Sense, Low Value



FEATURES

- Open air design
- Low resistance values for all types of current sensing, voltage division and pulse applications including switching and linear supplies, instrumentation and power amplifiers
- All welded construction
- Solid metal nickel-chrome or copper-nickel alloy resistive element
- Solderable terminations
- Very low inductance
- AEC-Q200 qualified available ⁽¹⁾
- Compliant to RoHS Directive 2002/95/EC



RoHS*
COMPLIANT
GREEN
(5-2008)**
Available

Note

⁽¹⁾ Flame retardance test may not be applicable to some resistor technologies.

Notes

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

** Please see document "Vishay Material Category Policy": www.vishay.com/doc/99902

STANDARD ELECTRICAL SPECIFICATIONS

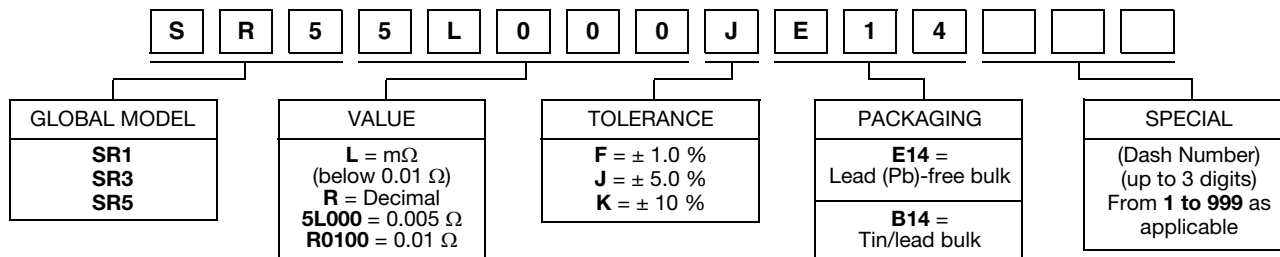
MODEL	POWER RATING $P_{70\text{ }^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω	TOLERANCE $\pm \%$
SR1	1.0	0.005 to 0.03	1, 5
SR3	3.0	0.005 to 0.05	1, 5
SR5	5.0	0.004 to 0.05	1, 5

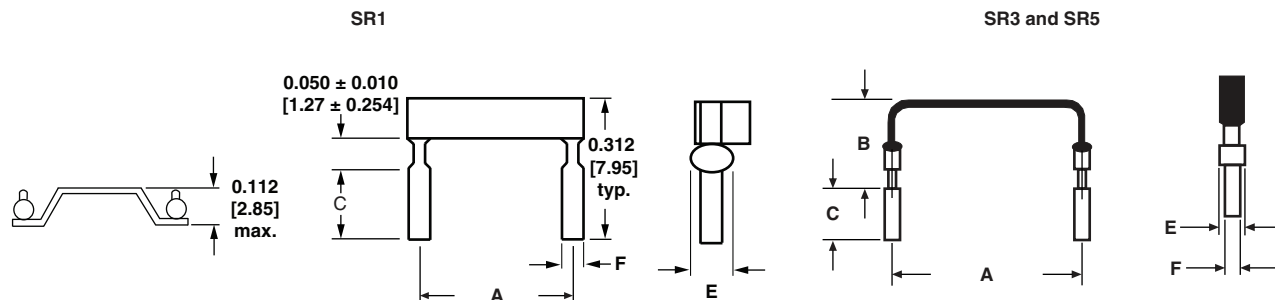
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	SR RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	$\pm 100 = 0.01\ \Omega$ to $0.05\ \Omega$; $\pm 175 = 0.0051\ \Omega$ to $0.0099\ \Omega$; $\pm 300 = 0.004\ \Omega$ to $0.005\ \Omega$
Operating Temperature Range	$^{\circ}\text{C}$	- 65 to + 275
Maximum Continuous Current	A	$(P/R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: SR55L000JE14



DIMENSIONS in inches [millimeters]


MODEL	DIMENSIONS in inches [millimeters]				
	A	B	C	E	F
SR1	0.450 + 0.020 [11.43 + 0.508]	-	0.125 ± 0.030 [3.18 ± 0.762]	0.070 [1.78]	0.040 ± 0.002 [1.02 ± 0.051]
SR3	0.600 + 0.040/- 0.020 [15.24 + 1.020/- 0.508]	1.0 maximum [25.4 maximum]		0.065 + 0.010/- 0.005 [1.65 + 0.254/- 0.127]	
SR5	0.800 + 0.040/- 0.020 [20.32 + 1.020/- 0.508]				

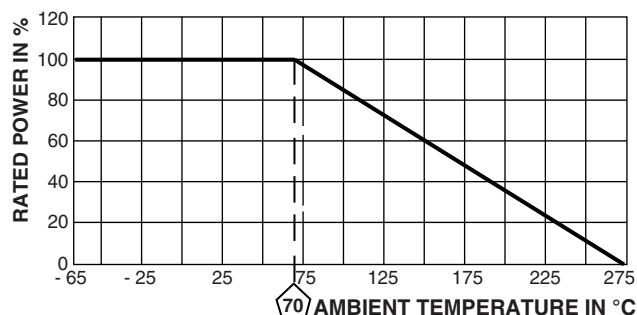
MATERIAL SPECIFICATIONS

Element: Nickel-chrome or copper-nickel alloy depending on resistance value

Terminals: Tinned copper

Encapsulation: None

Marking: None

DERATING


PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Temperature Cycling	- 55 °C to + 125 °C, 1000 cycles, 15 min at each extreme	$\pm (1.0 \% + 0.0005 \Omega) \Delta R$
Low Temperature Storage	- 65 °C for 24 h	$\pm (0.5 \% + 0.0005 \Omega) \Delta R$
High Temperature Exposure	1000 h at + 275 °C	$\pm (2.0 \% + 0.0005 \Omega) \Delta R$
Bias Humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	$\pm (1.0 \% + 0.0005 \Omega) \Delta R$
Mechanical Shock	100 g's for 11 ms, 5 pulses	$\pm (0.2 \% + 0.0005 \Omega) \Delta R$
Vibration	Frequency varied 10 Hz to 2000 Hz in 1 min, 3 directions, 12 h	$\pm (0.2 \% + 0.0005 \Omega) \Delta R$
Load Life	1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"	$\pm (2.0 \% + 0.0005 \Omega) \Delta R$
Resistance to Solder Heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	$\pm (0.5 \% + 0.0005 \Omega) \Delta R$
Moisture Resistance	MIL-STD-202 method 106, 0 % power, 7a and 7b not required	$\pm (0.5 \% + 0.0005 \Omega) \Delta R$



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