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

Pb-free Available

e3

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 $P_{70\,°C}$ W	RESISTANCE RANGE Ω	TOLERANCE ± %
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/°C	± 100 = 0.01 Ω to 0.05 Ω; ± 175 = 0.0051 Ω to 0.0099 Ω; ± 300 = 0.004 Ω to 0.005 Ω
Operating Temperature Range	°C	- 65 to + 275
Maximum Continuous Current	A	$(P/R)^{1/2}$

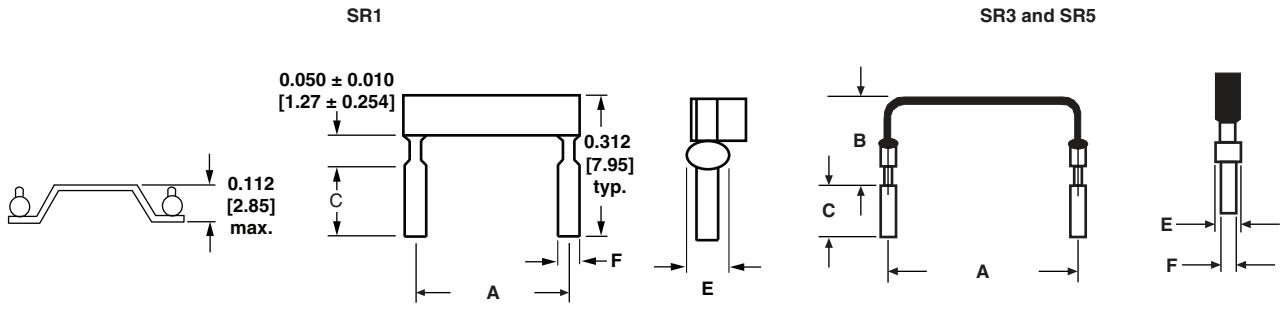
GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: SR55L000JE14

S	R	5	5	L	0	0	0	J	E	1	4			

GLOBAL MODEL	VALUE	TOLERANCE	PACKAGING	SPECIAL
SR1 **SR3** **SR5**	**L** = mΩ (below 0.01 Ω) **R** = Decimal **5L000** = 0.005 Ω **R0100** = 0.01 Ω	**F** = ± 1.0 % **J** = ± 5.0 % **K** = ± 10 %	**E14** = Lead (Pb)-free bulk **B14** = Tin/lead bulk	(Dash Number) (up to 3 digits) From **1 to 999** as applicable

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

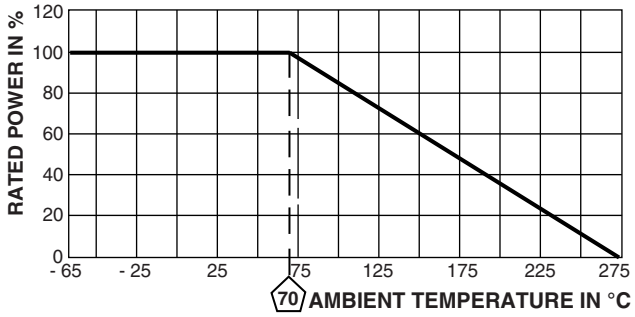
Element: Nickel-chrome or copper-nickel alloy depending on resistance value

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

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