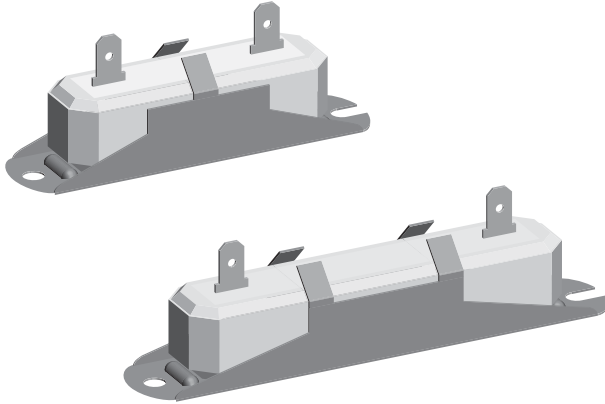


## Wirewound Resistors, Special Purpose, Commercial, High Power


**FEATURES**

- High power/size ratio
- Quick connect terminals
- Complete welded construction
- High surge capability
- Non-inductive styles available
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package
- SPR2214 is available with a center terminal option
- Compliant to RoHS Directive 2002/95/EC



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

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25\text{ }^\circ\text{C}}$ W WITHOUT HEAT SINK	POWER RATING $P_{25\text{ }^\circ\text{C}}$ W WITH HEAT SINK <sup>(1)</sup>	RESISTANCE RANGE $\Omega$	TOLERANCE $\pm$ %
SPR2213	SPR-2213	40	70	0.5 to 24K	5, 10
SPR2214	SPR-2214	50	100	1.0 to 44K	5, 10

**Note**

<sup>(1)</sup> Recommended heat sink is 12" x 12" x 0.125" thick aluminum panel (294 sq. in. surface area)

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	SPR2213, SPR2214 RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^\circ\text{C}$	$\pm$ 30 10 $\Omega$ and above; $\pm$ 50 below 10 $\Omega$
Short Time Overload	-	10 x rated power for 5 s
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	$^\circ\text{C}$	- 65 to + 275
Dielectric Withstanding Voltage	$V_{AC}$	2500

GLOBAL PART NUMBER INFORMATION				
Global Part Numbering example: SPR221375R000JD				
S	P	R	2	2
1	3	7	5	R
0	0	0	J	D
[ ]	[ ]			
GLOBAL MODEL	VALUE	TOLERANCE	PACKAGING	SPECIAL
SPR2213 SPR2214	R = Decimal K = Thousand R15000 = 0.15 $\Omega$ 1K5000 = 1500 $\Omega$	J = $\pm$ 5.0 % K = $\pm$ 10.0 %	D = Skin pack (S51) K = RoHS compliant, skin pack (E51)	(Dash Number) (up to 2 digits) From 1 to 99 as applicable
Historical Part Numbering example: SPR-2213 75 $\Omega$ 5 % S51				
SPR-2213	75 $\Omega$	5 %	S51	
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	

**Note**

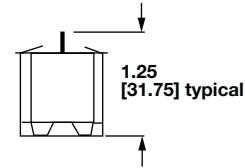
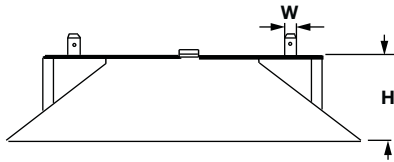
- Brackets used with "D" packaging code are not RoHS/Green compliant

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

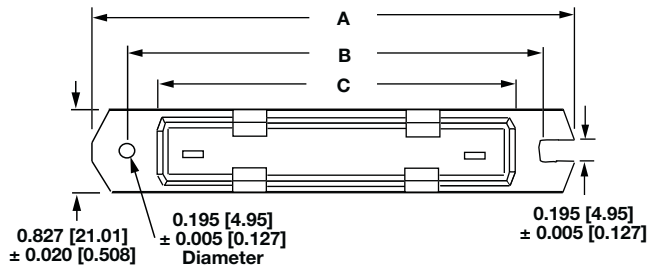
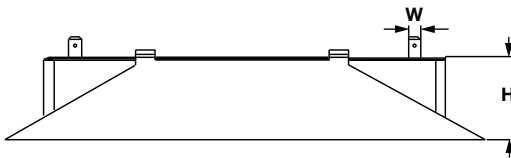
\*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

## DIMENSIONS in inches [millimeters]

### SPR2213



### SPR2214



GLOBAL MODEL	Dimensions in inches [millimeters]				
	A TYPICAL	B ± 0.031 [0.794]	C ± 0.031 [0.794]	W ± 0.005 [0.127]	H TYPICAL
SPR2213	3.375 [85.73]	3.00 [76.20]	2.50 [63.50]	0.250 x 0.031 [6.35 x 0.794]	0.810 [20.57]
SPR2214	4.563 [115.90]	4.125 [104.78]	3.625 [92.08]	0.250 x 0.031 [6.35 x 0.794]	0.810 [20.57]

## MATERIAL SPECIFICATIONS

**Element:** Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

**Core:** Steatite ceramic

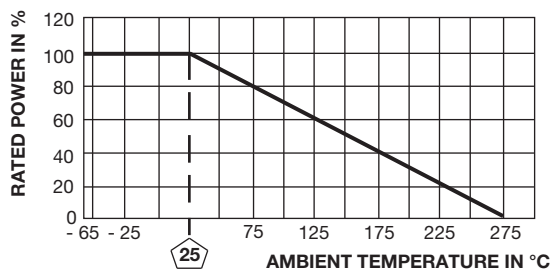
**Body:** Steatite ceramic case with inorganic potting compound

**Terminals:** Nickel plated steel

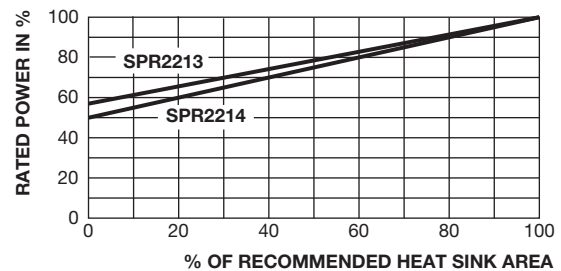
**Bracket:** Zinc plated steel

**Part Marking:** DALE, model, wattage, value, tolerance, date code

## DERATING



## HEAT SINK DERATING



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	Rated power applied until thermally stable, then a minimum of 15 min at - 55 °C	± (2.0 % + 0.05 Ω) ΔR
Short Time Overload	10 x rated power for 5 s	± (2.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V <sub>RMS</sub> , 1 min	± (0.1 % + 0.05 Ω) ΔR
Low Temperature Storage	- 65 °C for 24 h	± (2.0 % + 0.05 Ω) ΔR
High Temperature Exposure	250 h at + 275 °C	± (2.0 % + 0.05 Ω) ΔR
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	± (2.0 % + 0.05 Ω) ΔR
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 g's for 6 ms, 10 shocks	± (0.2 % + 0.05 Ω) ΔR
Vibration, High Frequency	Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each	± (0.2 % + 0.05 Ω) ΔR
Load Life	1000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"	± (3.0 % + 0.05 Ω) ΔR



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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

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