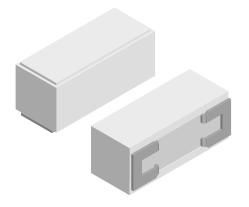


Vishay Dale

## Wirewound Resistors, Commercial Power, Surface Mount



#### **FEATURES**

- · Direct mounting on printed circuit board
- High wattage capabilities, low board temperatures
- Meets or exceeds EIA-RS-344 requirements
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package
- Superior surge capability
- Compliant to RoHS Directive 2002/95/EC





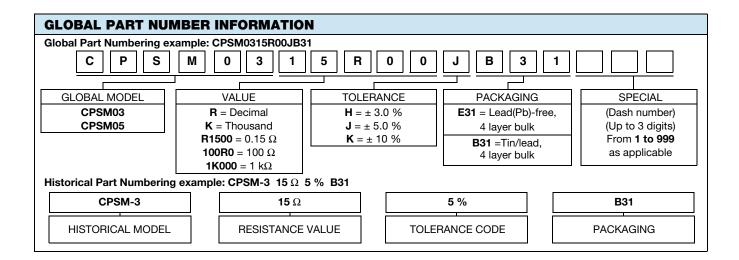


#### **Notes**

- \* 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					
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P <sub>40°C</sub> W	RESISTANCE RANGE $\Omega$	TOLERANCE ± %	WEIGHT (typical) g
CPSM03	CPSM-3	3	0.1 to 1K	5, 10	5.5
CPSM05	CPSM-5	5	0.1 to 1K	5, 10	6.5

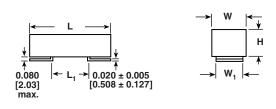
TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	CPSM RESISTOR CHARACTERISTICS		
Temperature Coefficient	ppm/°C	$\pm$ 300 for 1.0 $\Omega$ and above; $\pm$ 600 below 1.0 $\Omega$		
Short Time Overload	-	5 x rated power for 5 s		
Operating Temperature	°C	- 65 to + 275		
Dielectric Withstanding Voltage	V <sub>AC</sub>	1000		
Maximum Working Voltage	V	$(P \times R)^{1/2}$		

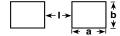




# Vishay Dale

### **DIMENSIONS**

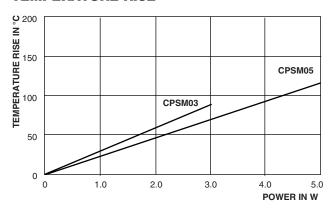




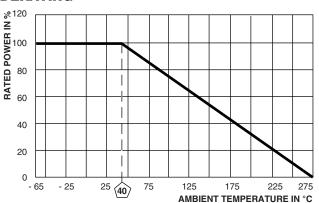
	DIMENSIONS in inches [millimeters]				
MODEL	L ± 0.032 [0.813]	W ± 0.031 [0.787]	L <sub>1</sub> ± 0.062 [1.57]	W <sub>1</sub> + 0.032 [0.813] - 0.012 [0.305]	H ± 0.031 [0.787]
CPSM03	0.906	0.374	0.480	0.287	0.374
	[23.01]	[9.50]	[12.19]	[7.29]	[9.50]
CPSM05	1.060	0.374	0.590	0.287	0.374
	[26.92]	[9.50]	[14.99]	[7.29]	[9.50]

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]			
MODEL	а	b	I	
CPSM03	0.420	0.340	0.380	
	[10.67]	[8.64]	[9.65]	
CPSM05	0.440	0.340	0.490	
	[11.18]	[8.64]	[12.45]	

### **TEMPERATURE RISE**



### **DERATING**



MATERIAL SPECIFICATIONS			
Element	Copper-nickel alloy or nickel-chrome alloy, depending on resistance value		
Core	Woven fiberglass		
Body	Steatite ceramic case with inorganic potting compound		
Terminals	Tin/lead plated steel (lead (Pb)-free version will be 100 % tin)		
Part Marking	DALE, model, wattage, value, tolerance, date code		

PERFORMANCE				
TEST	CONDITIONS OF TEST	TEST LIMITS (EIA RS-344)		
Thermal shock	- 55 °C to + 165 °C, 5 cycles, 30 min dwell time	$\pm$ (5.0 % + 0.05 Ω) ΔR		
Short time overload	5 x rated power for 5 s	$\pm$ (4.0 % + 0.05 Ω) ΔR		
Dielectric withstanding voltage	1000 V <sub>RMS</sub> for one min	$\pm$ (2.0 % + 0.05 Ω) ΔR		
Low temperature operation	- 65 °C, full rated working voltage for 45 min	$\pm$ (3.0 % + 0.05 Ω) ΔR		
Humidity	75 °C, 90 % to 100 % RH, 240 h	$\pm$ (5.0 % + 0.05 Ω) ΔR		
Load life	1000 h at rated power, + 40 °C, 1.5 h "ON", 0.5 h "OFF"	± (10.0 % + 0.05 Ω) ΔR		
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (4.0 % + 0.05 Ω) ΔR		



## **Legal Disclaimer Notice**

Vishay

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## **Material Category Policy**

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

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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Revision: 02-Oct-12 Document Number: 91000



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