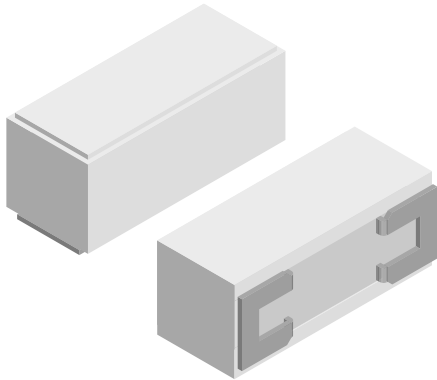


## Wirewound Resistors, Commercial Power, Surface Mount



### 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



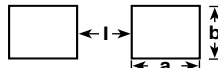
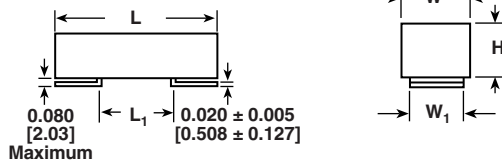
STANDARD ELECTRICAL SPECIFICATIONS			
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{40\text{ }^\circ\text{C}}$ W	RESISTANCE RANGE $\Omega$ $\pm 5\%, \pm 10\%$
CPSM03	CPSM-3	3	0.1 to 1K
CPSM05	CPSM-5	5	0.1 to 1K

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	CPSM RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^\circ\text{C}$	$\pm 600$ below $1.0\ \Omega$ , $\pm 300$ $1.0\ \Omega$ and above
Short time overload	-	5 x rated power for 5 s
Operating temperature	$^\circ\text{C}$	- 65/+ 275
Dielectric withstanding voltage	$V_{AC}$	1000
Maximum working voltage	V	$(P \times R)^{1/2}$
Weight (typical)	g	CPSM03 = 5.5; CPSM05 = 6.5

GLOBAL PART NUMBER INFORMATION																	
New Global Part Numbering: CPSM0315R00JE31 (preferred part numbering format)																	
C	P	S	M	0	3	1	5	R	0	0	J	E	3	1			
GLOBAL MODEL			VALUE				TOLERANCE		PACKAGING			SPECIAL					
CPSM03 CPSM05			R = Decimal K = Thousand R1500 = $0.15\ \Omega$ 100R0 = $100\ \Omega$ 1K000 = $1\ \text{k}\Omega$				H = $\pm 3.0\%$ J = $\pm 5.0\%$ K = $\pm 10\%$		E31 = Lead(Pb)-free, 4 layer bulk  B31 = Tin/lead, 4 layer bulk			(Dash number) (Up to 3 digits) From 1 to 999 as applicable					
Historical Part Number Example: CPSM-3 15 $\Omega$ 5% B31 (will continue to be accepted for tin/lead product only)																	
CPSM-3			15 $\Omega$				5%		B31								
HISTORICAL MODEL			RESISTANCE VALUE				TOLERANCE CODE		PACKAGING								

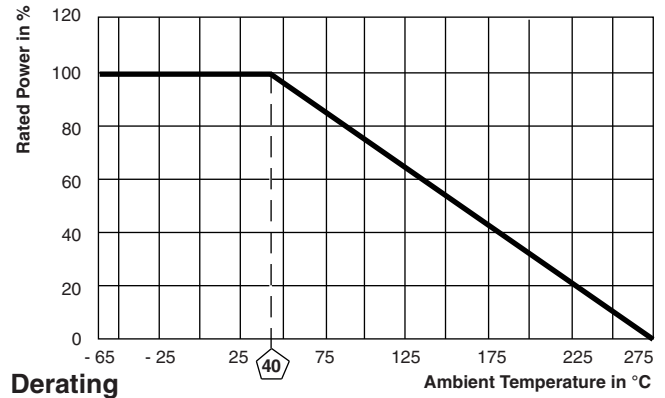
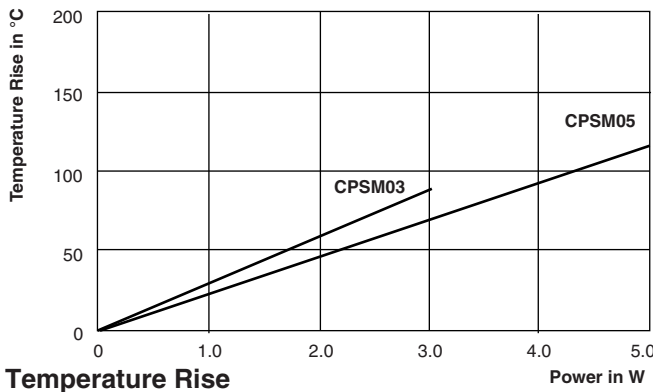
\* Pb containing terminations are not RoHS compliant, exemptions may apply  
 \*\* Please see document "Vishay Material Category Policy": [www.vishay.com/doc?99902](http://www.vishay.com/doc?99902)

**DIMENSIONS**



MODEL	DIMENSIONS in inches (millimeters)				
	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 (23.01)	0.374 (9.50)	0.480 (12.19)	0.287 (7.29)	0.374 (9.50)
CPSM05	1.060 (26.92)	0.374 (9.50)	0.590 (14.99)	0.287 (7.29)	0.374 (9.50)

MODEL	SOLDER PAD DIMENSIONS in inches (millimeters)		
	a	b	l
CPSM03	0.420 (10.67)	0.340 (8.64)	0.380 (9.65)
CPSM05	0.440 (11.18)	0.340 (8.64)	0.490 (12.45)



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	± (5.0 % + 0.05 Ω) ΔR
Short time overload	5 x rated power for 5 s	± (4.0 % + 0.05 Ω) ΔR
Dielectric withstanding voltage	1000 V <sub>RMS</sub> for one min	± (2.0 % + 0.05 Ω) ΔR
Low temperature operation	- 65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) ΔR
Humidity	75 °C, 90 % to 100 % RH, 240 h	± (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



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