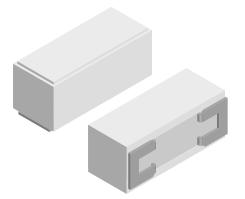


CPSM

Vishay Dale

Wirewound/Metal Oxide 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



COMPLIANT HALOGEN FREE GREEN

- Superior surge capability
- Material categorization: for definitions of
 <u>(5-2008)</u>
 compliance please see <u>www.vishay.com/doc?99912</u>

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P _{40 °C} W	$\begin{array}{c} \textbf{RESISTANCE}\\ \textbf{RANGE}\\ \Omega\\ \textbf{WIREWOUND} \end{array}$	RESISTANCE RANGE Ω METAL OXIDE	TOLERANCE ± %	WEIGHT (typical) g
CPSM03	CPSM-3	3	0.1 to 100	-	5, 10	5.5
CPSM05	CPSM-5	5	0.1 to 100	110 to 33K	5, 10	6.5

Note

• E24 decade values are available, although others may be available upon request

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	CPSM RESISTOR CHARACTERISTICS		
Temperature Coefficient	ppm/°C	± 400		
Short Time Overload	-	5 x rated power for 5 s		
Maximum Working Voltage	V	$(P \times R)^{1/2}$		
Terminal Strength	lb	10 minimum		
Operating Temperature Range	°C	-65 to +275 for wirewound, -65 to +225 for metal oxide		

GLOBAL PART NUMBER INFORMATION						
Global Part Numbering Example: CPSM0315R00JE31						
C P S	S M 0 3 1 5 R 0 0 J E 3 1					
GLOBAL MODEL	VALUE	TOLER	ANCE	PACKAGING		SPECIAL
CPSM03 CPSM05	R = decimal K = thousand R1500 = 0.15 Ω 100R0 = 100 Ω 1K000 = 1 kΩ	K = ±	J = ± 5.0 % K = ± 10 % E31 = lead (Pb)-fr 4 layer bulk		ee,	(dash number) (up to 3 digits) from 1 to 999 as applicable
Historical Part Numbering	Historical Part Numbering Example: CPSM-3 15 Ω 5 % E31					
CPSM-3 15 Ω		5 %		E31		
HISTORICAL MODEL RESISTANCE		VALUE	UE TOLERANCE CODE		PACKAGING	

Revision: 05-Feb-2020

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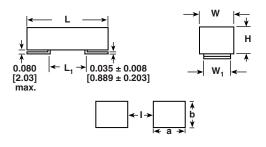
End of Life July 2020



Vishay Dale

CPSM

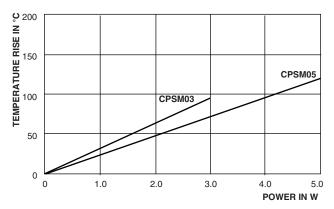
DIMENSIONS



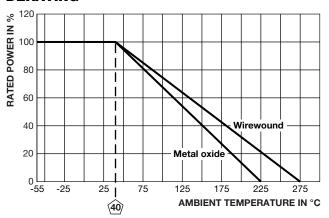
	DIMENSIONS in inches [millimeters]						
MODEL	L	W	L ₁	W ₁	H		
	± 0.059	± 0.039	± 0.059	± 0.016	± 0.039		
	[1.50]	[0.99]	[1.50]	[0.406]	[0.99]		
CPSM03	0.944	0.354	0.492	0.287	0.354		
	[23.98]	[8.99]	[12.50]	[7.29]	[8.99]		
CPSM05	1.10	0.394	0.590	0.287	0.394		
	[27.94]	[10.01]	[14.99]	[7.29]	[10.01]		

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]				
WODEL	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	Wirewound = copper-nickel alloy or nickel-chrome alloy, depending on resistance value; metal oxide = high temperature fired metal oxide film			
Core	Ceramic			
Body	Steatite ceramic case with cement potting compound			
Terminals	Tin plated steel			
Part Marking	Dale, model, wattage, value, tolerance, date code			

PERFORMANCE					
TEST	CONDITIONS OF TEST	TEST LIMITS			
Thermal Shock	-55 °C to +275 °C (+225 °C for metal oxide), 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) Δ <i>R</i>			
Dielectric Withstanding Voltage	1000 V _{RMS} for 1 min	± (2.0 % + 0.05 Ω) Δ <i>R</i>			
Low Temperature Operation	-65 °C, full rated working voltage for 45 min	\pm (3.0 % + 0.05 Ω) Δ <i>R</i>			
Humidity	75 °C, 90 % to 100 % RH, 240 h	\pm (5.0 % + 0.05 Ω) Δ <i>R</i>			
Load Life	1000 h at rated power, +40 °C, 1.5 h "ON", 0.5 h "OFF"	± (10.0 % + 0.05 Ω) Δ <i>R</i>			
Terminal Strength	5 pounds for 30 s; body twisted about axis, 3 x 360° rotations	± (2.0 % + 0.05 Ω) ΔR			
Resistance to Solder Heat	Terminal immersed 3.5 s in molten solder at 1/8" to 3/16" from body	± (4.0 % + 0.05 Ω) Δ <i>R</i>			

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