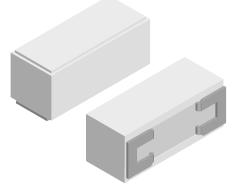
CPSM

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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
 GREEN
- Superior surge capability
- Compliant to RoHS Directive 2002/95/EC



(5-2008)**

Available

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 _{40 °C} W	RESISTANCE RANGE Ω	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 Ω and above; \pm 600 below 1.0 Ω		
Short Time Overload - 5 x rated power for 5 s		5 x rated power for 5 s		
Operating Temperature °C		- 65 to + 275		
Dielectric Withstanding Voltage	V _{AC}	1000		
Maximum Working Voltage V $(P \times R)^{1/2}$		(P x R) ^{1/2}		

GLOBAL PART NUMBER INFORMATION						
Global Part Numbering example	Global Part Numbering example: CPSM0315R00JB31					
C P S M 0 3 1 5 R 0 0 J B 3 1						
GLOBAL MODEL	VALUE	TOLER	ANCE	PACKAGING		SPECIAL
CPSM03	R = Decimal	$H = \pm 3$.0 %	E31 = Lead(Pb)-free,		(Dash number)
CPSM05	K = Thousand	J = ± 5.0 %		4 layer bulk		(Up to 3 digits)
	R1500 = 0.15 Ω	R1500 = 0.15 Ω K = ± 10 %		B31 =Tin/lead		From 1 to 999
	100R0 = 100 Ω	100R0 = 100 Ω		4 layer bulk	,	as applicable
	1K000 = 1 kΩ					
Historical Part Numbering example: CPSM-3 15 Ω 5 % B31						
CPSM-3	15 Ω	15 Ω		5 %		B31
HISTORICAL MODEL	RESISTANCE	RESISTANCE VALUE TOLE		RANCE CODE		PACKAGING

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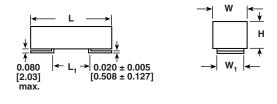
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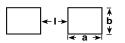
CPSM

DIMENSIONS

VISHA



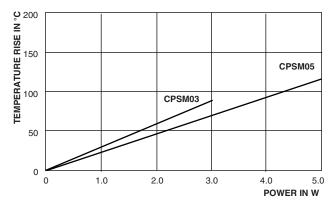
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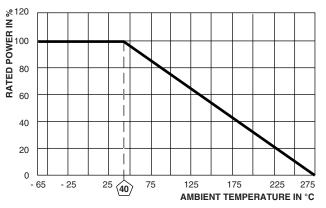
	DIMENSIONS in inches [millimeters]					
MODEL	L ± 0.032 [0.813]	W ± 0.031 [0.787]	L ₁ ± 0.062 [1.57]	W ₁ + 0.032 [0.813] - 0.012 [0.305]	H ± 0.031 [0.787]	
CPSM03	0.906	0.374	0.480	0.287	0.374	
	[23.01]	[9.50]	[12.19]	[7.29]	[9.50]	
CPSM05	1.060	0.374	0.590	0.287	0.374	
	[26.92]	[9.50]	[14.99]	[7.29]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

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]				
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	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) Δ <i>R</i>			
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 one min	\pm (2.0 % + 0.05 Ω) ΔR			
Low temperature operation	- 65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) Δ <i>R</i>			
Humidity	75 °C, 90 % to 100 % RH, 240 h	± (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>			
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (4.0 % + 0.05 Ω) Δ <i>R</i>			

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