

Features

- Thick film technology
- Power rating of 2 watts at 70 °C
- Low resistance value available
- RoHS compliant*

Applications

- Current sensing
- Power supplies
- Stepper motor drives
- Snubber resistor for flyback power supplies

CRM2512 - High Power Current Sense Chip Resistors

General Information

The Bourns® CRM2512 Series is a thick film power resistor with a rating of 2 watts in a standard 2512 chip format. This product has a very wide resistance range, making it suitable for different applications in power supply circuits including current sensing and current limiting.

Additional Information

Click these links for more information:



Electrical Characteristics

Characteristic	Model CRM2512			
	(0.047 to 0.91 Ω)	(0 Ω, 1 Ω to 1 M Ω)		
Power Rating @ 70 °C	2 W			
Operating Temp. Range	-55 °C to +155 °C			
Derated to Zero Load at	+155 °C			
Maximum Working Voltage	1349 mV	300 V		
Maximum Overload Voltage	3017 mV	600 V		
Insulation Resistance	> 1000 MΩ			
Resistance Range	0.047 - 0.91 Ω (E24 Values)	1 Ω - 9.76 Ω (E96 + E24 Values)	10 Ω - 1 MΩ (E96 + E24 Values)	0 Ω, 1.0 - 1 MΩ (E24 Values)
Resistance Tolerance	±1 % & ±5 %	±1 %	±1 %	±5 %
Temperature Coefficient	±100 PPM/°C	±100 PPM/°C, ±200 PPM/°C	±100 PPM/°C	±200 PPM/°C
Zero Ohm Jumper <0.02 Ω Max. Rated Current	6A			

Notes:

- (1) CRM2512 2 W loading with total solder pad and trace size of 300 mm².
 (2) $E = (P \times R)^{1/2}$
 E: Working Voltage (V); P: Rated Power (W); R: Resistance Value (Ω)

- (3) Jumper (0 Ω): Rated current 6 A maximum with 300 mm² pad.
 Temperature coefficient is not applicable.
 For Standard Values Used in Capacitors, Inductors, and Resistors, [click here](#).

Environmental Characteristics

Moisture Sensitivity Level..... 1

Characteristic Data

Test	ΔR Max.
Load Life (1000 hours)	
1 % Tolerance	< 1 %
5 % Tolerance	< 3 %
Short Term Overload	
1 % Tolerance	< 1 %
5 % Tolerance	< 2 %
Thermal Shock	
1 % Tolerance	< 0.5 %
5 % Tolerance	< 1 %



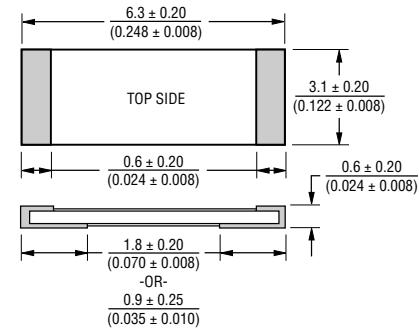
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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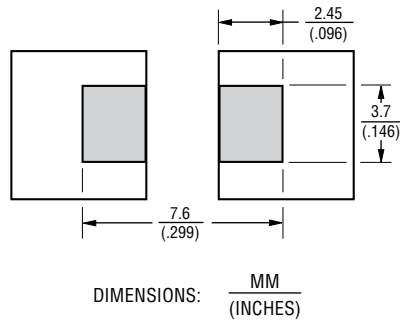


Product Dimensions

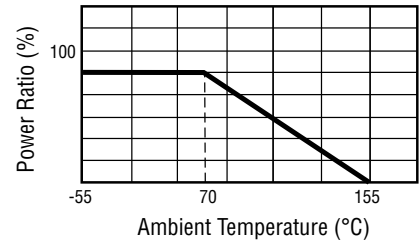


FOR RESISTANCE VALUES LOWER THAN 1 OHM

Recommended Solder Pad Layout



Derating Curve



How to Order

CRM 2512 - F X - R100 E LF

Model _____
 (CRM = Precision Chip Resistor)

Size _____
 2512 = 2512 Size

Resistance Tolerance _____
 • F = ±1 %
 • J = ±5 %

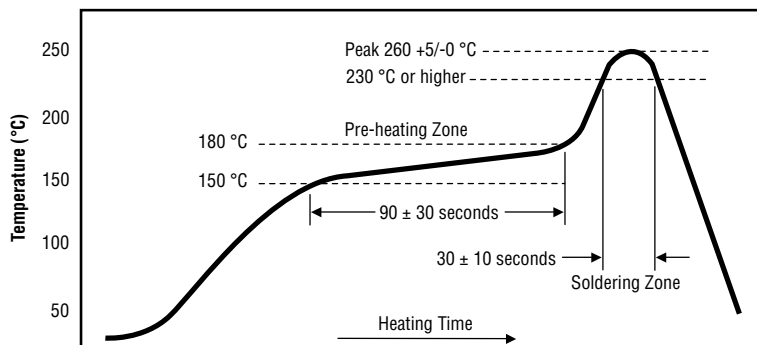
TCR (PPM/°C - See Electrical Characteristics chart) _____
 • W = ±200 PPM/°C
 • X = ±100 PPM/°C
 • / = Jumper

Resistance Value _____
 • **1% or 5% Tolerance:**
 R < 1 ohm "R" represents decimal point followed by three significant digits (example: R100 = 0.100 ohm)
 • **1% Tolerance:**
 < 100 ohms "R" represents decimal point (example: 24R3 = 24.3 ohms)
 ≥ 100 ohms First three digits are significant, fourth digit represents number of zeros to follow (example: 8252 = 82.5K ohms)
 • **5% Tolerance:**
 < 10 ohms "R" represents decimal point (example: 4R7 = 4.7 ohms)
 ≥ 10 ohms First two digits are significant, third digit represents number of zeros to follow (example: 474 = 470K ohms)
 0 ohm Jumper "000"

Packaging _____
 • E = 4000 pieces per 180 mm (7 inch) reel

Termination _____
 • LF = Tin-plated (RoHS Compliant)

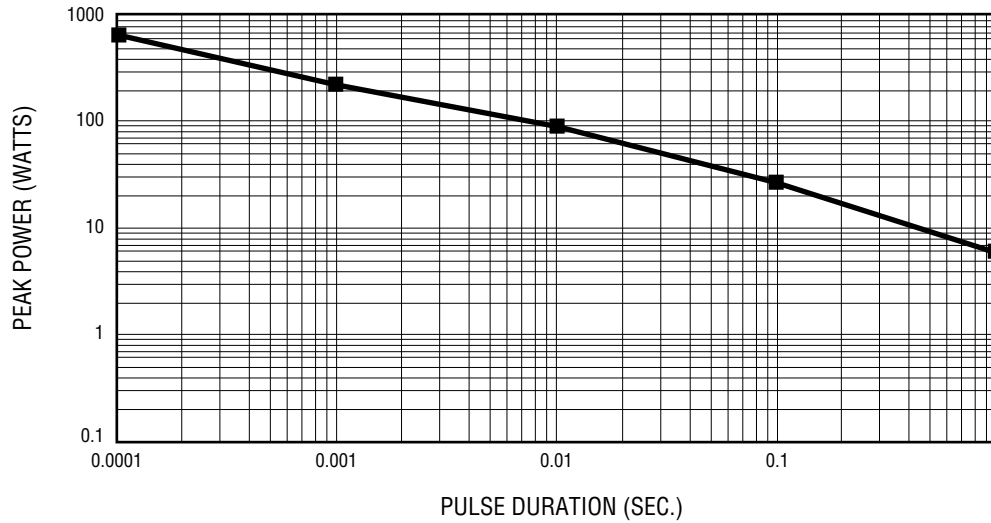
Soldering Profile



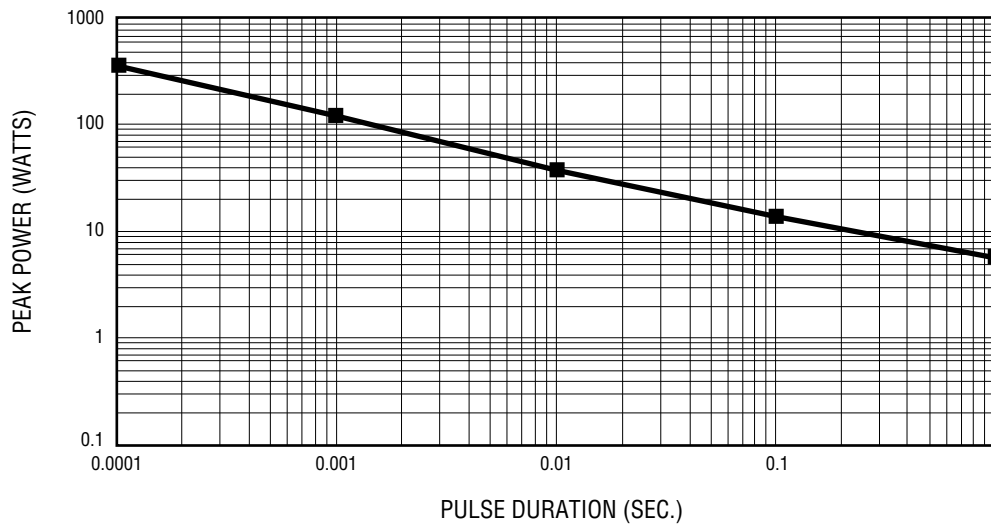
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Pulse Load Characteristics

Resistance Values ≥ 1 Ohm



Resistance Values < 1 Ohm



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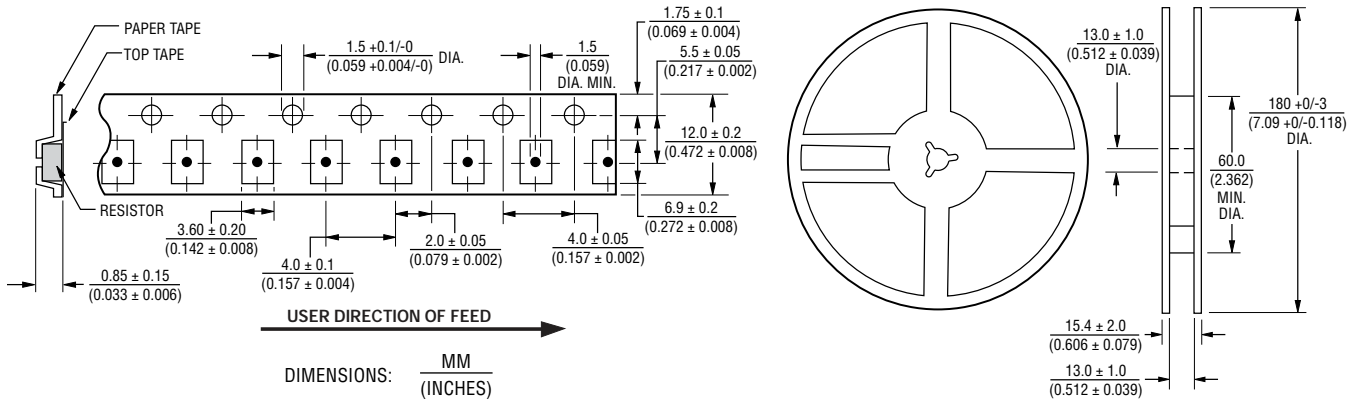
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BOURNS®

Packaging Dimensions (Conforms to EIA RS-481A)



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