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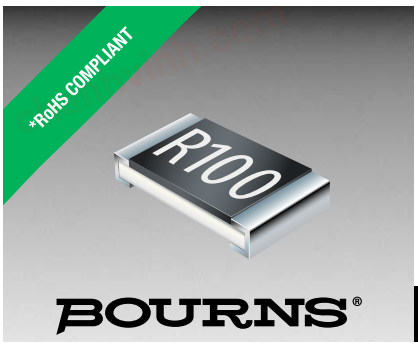

Features

- 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:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

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) $E = (PxR)^{1/2}$
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.
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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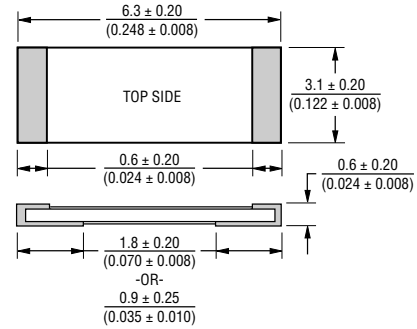
CRM2512 - High Power Current Sense Chip Resistors

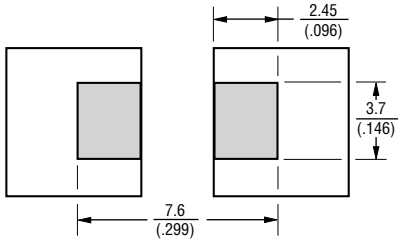
BOURNS®

Product Dimensions



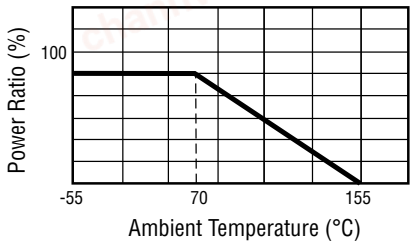
FOR RESISTANCE VALUES LOWER THAN 1 OHM

Recommended Solder Pad Layout



DIMENSIONS: MM / (INCHES)

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 %

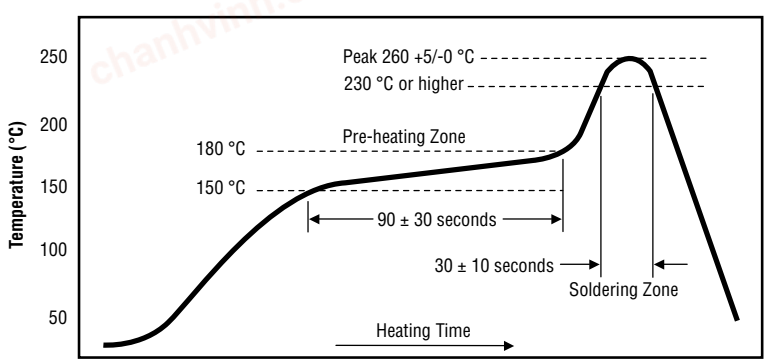
TCR (PPM/°C - See Electrical Characteristics chart)
- W = ±200 PPM/°C
- X = ±100 PPM/°C
- / = Jumper

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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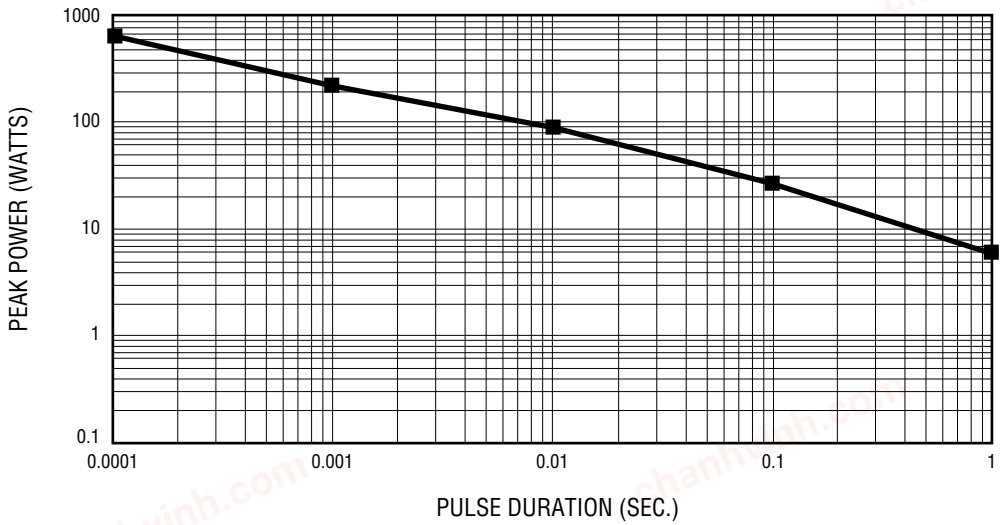
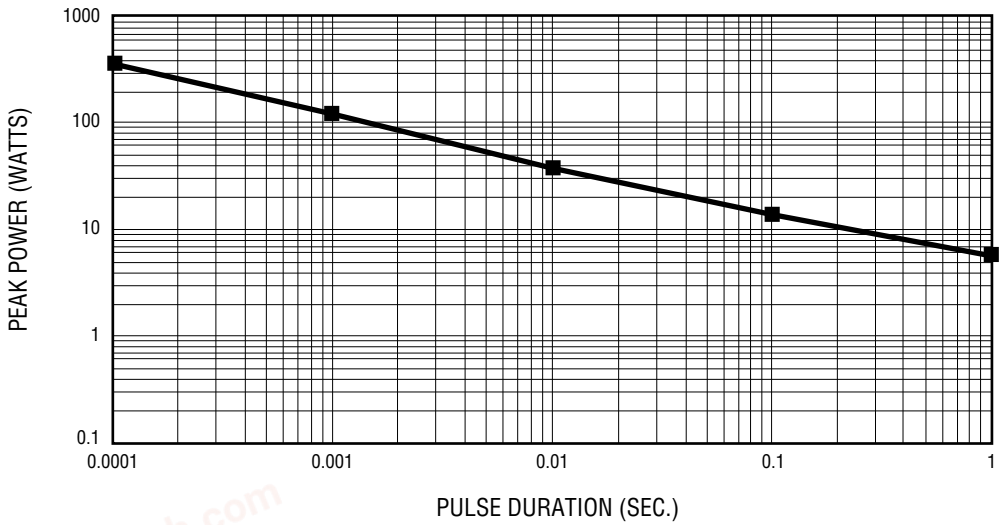
Pulse Load Characteristics

Resistance Values ≥1 Ohm



Resistance Values <1 Ohm



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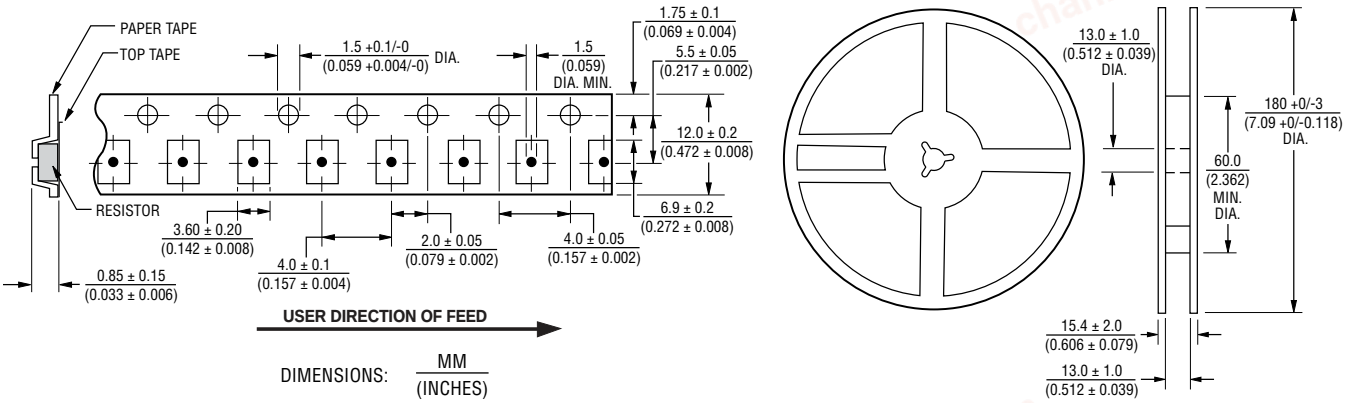
Packaging Dimensions (Conforms to EIA RS-481A)



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