

## 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<sup>®</sup> 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 ΜΩ (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 mm<sup>2</sup>.

(2)  $E = (PxR)^{1/2}$ 

E: Working Voltage (V); P: Rated Power (W); R: Resistance Value (Ω)

(3) Jumper (0  $\Omega$ ): Rated current 6 A maximum with 300 mm<sup>2</sup> 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	∆R Max.		
Load Life (1000 hours) 1 % Tolerance 5 % Tolerance	< 1 % < 3 %		
Short Term Overload 1 % Tolerance 5 % Tolerance	< 1 % < 2 %		
Thermal Shock 1 % Tolerance 5 % Tolerance	< 0.5 % < 1 %		

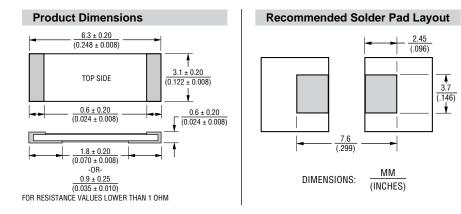


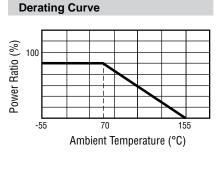
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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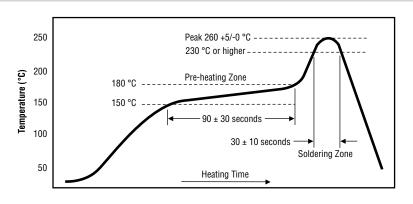
### How to Order

#### 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: • <u>1% Tolerance:</u> <100 ohms ..... .."R" represents decimal point (example: 24R3 = 24.3 ohms) • <u>5% Tolerance:</u> ≥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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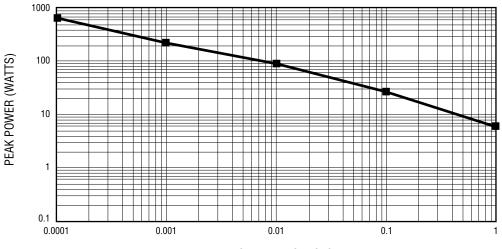
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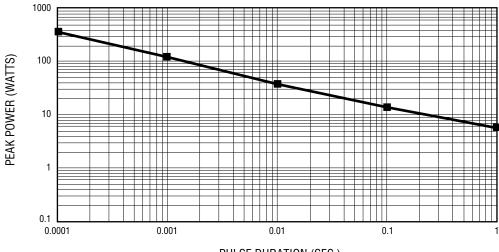
### **Pulse Load Characteristics**

### Resistance Values ≥1 Ohm



PULSE DURATION (SEC.)

#### Resistance Values <1 Ohm



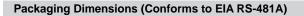
PULSE DURATION (SEC.)

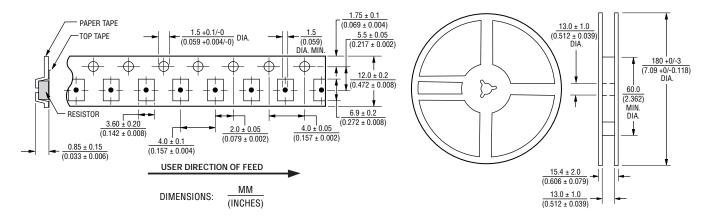
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