

### Features

- Thick film technology
- Power rating of 2 watts at 70 °C
- RoHS compliant\*

### Applications

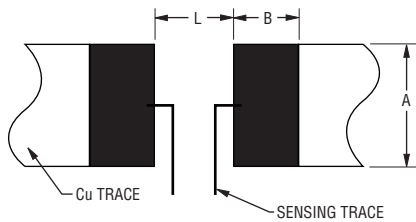
- Power supplies
- Stepper motor drives

## CRM2512 - Pulse Resistant Power Resistor

### Electrical Characteristics

|  |  |
|--|--|
| Power Rating @ 70 °C   | 2 W  |
| Operating Temperature Range  | -55 °C to +155 °C  |
| Derated to Zero Load at  | +155 °C  |
| Maximum Working Voltage<br>0.047 to 0.91 ohms<br>1.0 ohm to 1.0 megohm   | 3017 mV<br>600 V   |
| Insulation Resistance  | > 1000 megohms   |
| Resistance Range   | 0.047 - 1 megohm   |
| Resistance Tolerance   | ±1 %, ±5 %   |
| Temperature Coefficient<br>0.047 to 0.091 ohms<br>0.100 to 0.91 ohms<br>1.0 ohm to 1 megohm<br>10 ohms to 1 megohm | ±150 PPM/°C<br>±100 PPM/°C<br>±200 PPM/°C (Tolerance 5 %, E24 Values)<br>±100 PPM/°C (Tolerance 1 %, E96 Values) |

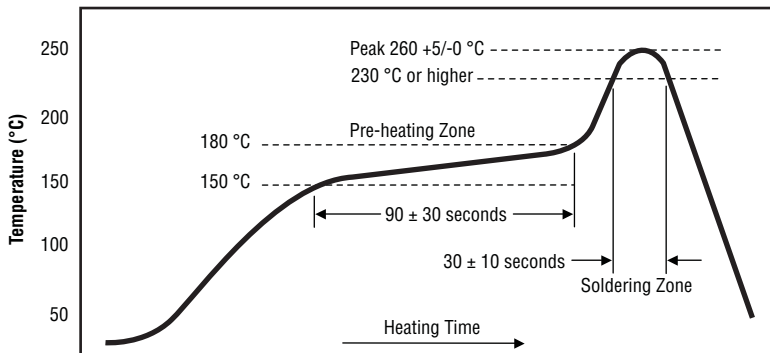
### Recommended Solder Pad Layout



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

| Model   | A                     | B                      | L                     |
|---------|-----------------------|------------------------|-----------------------|
| CRM2512 | $\frac{3.7}{(0.146)}$ | $\frac{2.45}{(0.096)}$ | $\frac{2.7}{(0.106)}$ |

### Soldering Profile



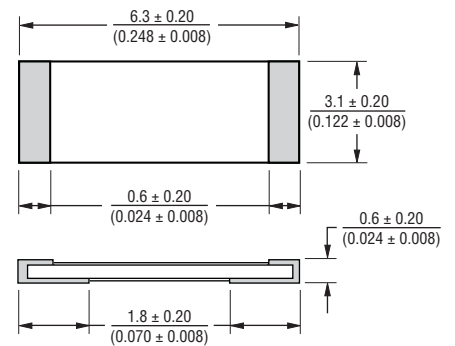
### General Information

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 inrush current limiting.

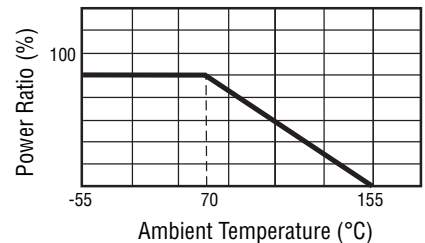
### Characteristic Data

| 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 %   |

### Product Dimensions



### Derating Curve

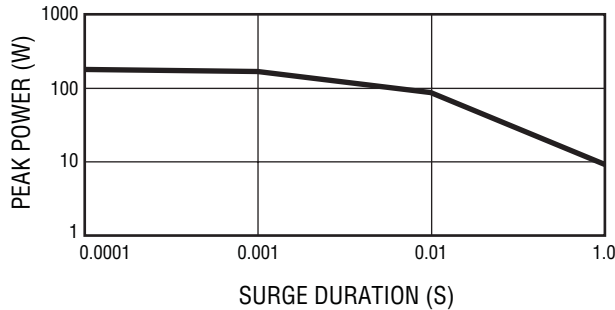


\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.  
Specifications are subject to change without notice.  
Customers should verify actual device performance in their specific applications

# CRM2512 - Pulse Resistant Power Resistor

**BOURNS®**

## Pulse Load Characteristics (R > 1 Ohm)



## Resistance Value Table (0.047-0.91 Ω)

| Code | R Value | Code | R Value |
|------|---------|------|---------|
| R047 | 0.047   | R200 | 0.200   |
| R050 | 0.050   | R300 | 0.300   |
| R060 | 0.060   | R510 | 0.510   |
| R075 | 0.075   | R750 | 0.750   |
| R082 | 0.082   | R820 | 0.820   |
| R090 | 0.090   | R910 | 0.910   |
| R100 | 0.100   |      |         |

## 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) \_\_\_\_\_  

- W = ±200 PPM/°C
- Z = ±150 PPM/°C
- X = ±100 PPM/°C

Resistance Value \_\_\_\_\_  
 R < 1 ohm (1 % or 5 % Tolerance): "R" (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)

Packaging \_\_\_\_\_  

- E = 4000 pieces on 180 mm (7 inch) reel

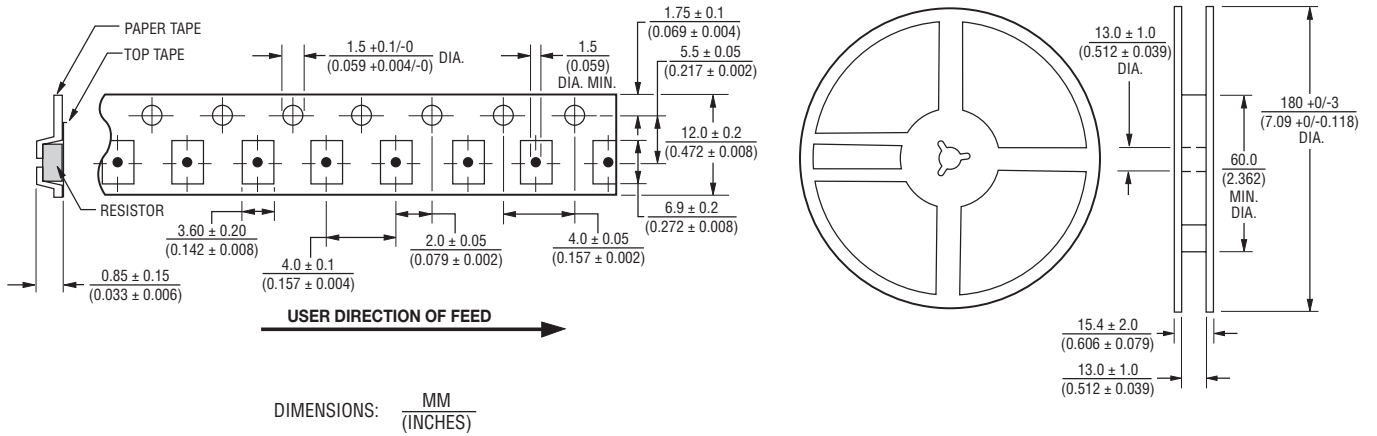
Termination \_\_\_\_\_  

- LF = Tin-plated (RoHS Compliant)

# CRM2512 - Pulse Resistant Power Resistor

**BOURNS®**

## Packaging Dimensions (Conforms to EIA RS-481A)



REV. 05/22/09

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