



Features

- Mn/Cu alloy resistor
- Power rating at 70 °C: 2 W, 3 W
- Inductance less than 5 nH
- Low EMF
- RoHS compliant*
- AEC-Q200 compliant

Applications

- Power supplies
- Stepper motor drives
- Battery packs
- White goods
- Input amplifiers

CRE2512 - High Power Current Sense Chip Resistor

Electrical Characteristics

Characteristic	CRE2512	
Power Rating @ 70 °C	2 W	3 W
Metal Strip Alloy	Mn/Cu	
Operating Temperature Range	-55 °C to +170 °C	
Derated to Zero Load at	+170 °C	
Maximum Working Current	(P / R) ^{1/2}	
Insulation Resistance	> 100 megohms	
Resistance Range	1 mΩ ~ 9 mΩ	
Resistance Tolerance	±1 %	
Temperature Coefficient	±50 PPM/°C	

Performance Characteristics

Test	Conditions	Specification
Thermal Shock	-55 °C to + 150 °C, 1000 Cycles, 15 minutes	ΔR < ±0.5 %
Short Time Overload	5 X Rated Power for 5 seconds	ΔR < ±0.5 %
Low Temperature Storage	-55 °C for 24 hours	ΔR < ±0.5 %
High Temperature Exposure	1000 hours @ + 170 °C	ΔR < ±1.0 %
Bias Humidity	+ 85 °C, 85 % RH, 10 % Bias, 1000 hours	ΔR < ±0.5 %
Mechanical Shock	100 g's for 6 milliseconds, 5 pulses	ΔR < ± 0.5 %
Vibration	Frequency varied 10 to 2000 KHz in one minute, 3 directions, 12 hours	ΔR < ± 0.5 %
Load Life	1000 hours at rated power at +70 °C, 1.5 hours on, 0.5 hours off	ΔR < ± 1.0 %
Resistance to Solder Heat	+260 °C Solder, 10-12 second dwell, 25 mm/second emergence	ΔR < ± 0.5 %
Moisture Resistance	MIL-STD-202 Method 106, 0 % power (7a and 7b not required)	ΔR < ± 0.5 %

Product Dimensions

Model	Dimension			
	A	B	C	T
CRE2512-R001 ~ CRE2512-R004	6.40 ± 0.20 (0.252 ± 0.008)	3.2 ± 0.20 (0.126 ± 0.008)	2.00 ± 0.20 (0.079 ± 0.008)	0.70 ± 0.20 (0.0276 ± 0.008)
CRE2512-R005 ~ CRE2512-R009	6.40 ± 0.20 (0.252 ± 0.008)	3.2 ± 0.20 (0.126 ± 0.008)	0.90 ± 0.20 (0.035 ± 0.008)	0.70 ± 0.20 (0.0276 ± 0.008)

DIMENSIONS: MM
(INCHES)



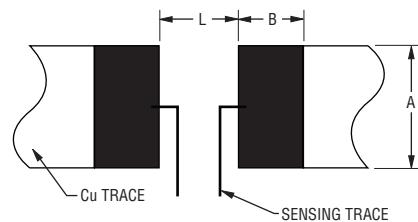
WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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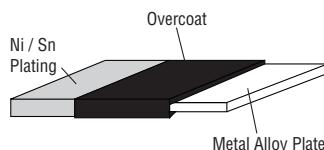
Recommended Solder Pad Layout



Model	Dimension		
	A	B	L
CRE2512-R001 ~ CRE2512-R004	4.0 (.0157)	3.1 (0.122)	1.3 (0.052)
CRE2512-R005 ~ CRE2512-R009	4.0 (.0157)	2.1 (0.083)	4.1 (0.161)

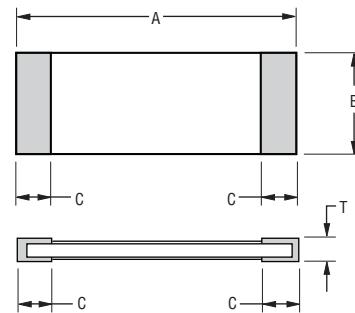
DIMENSIONS: MM
(INCHES)

Construction



Typical Part Marking

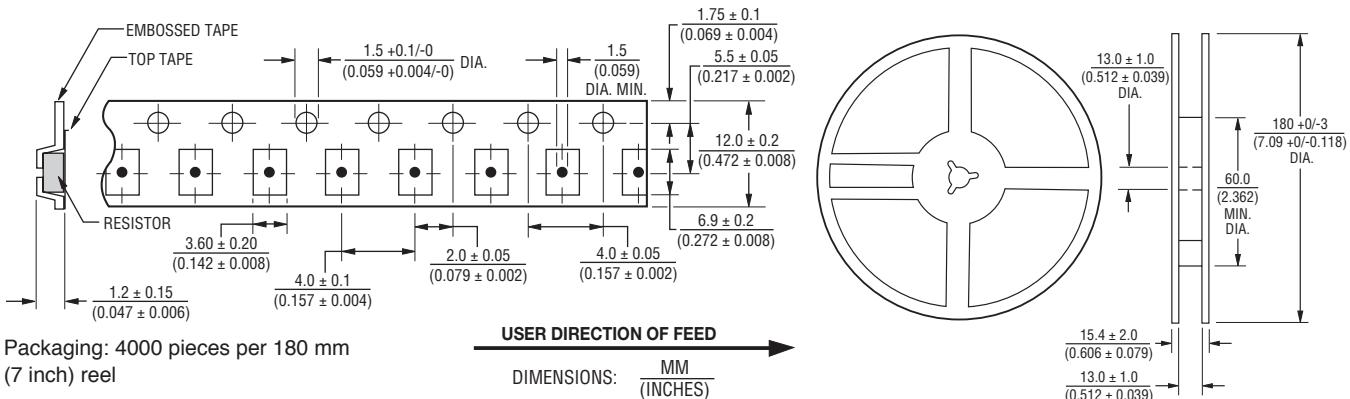
CRE2512-R001 ~ CRE2512-R004	R001
CRE2512-R005 ~ CRE2512-R009	R005



CRE2512 - High Power Current Sense Chip Resistor

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Packaging Dimensions (Conforms to EIA RS-481A)



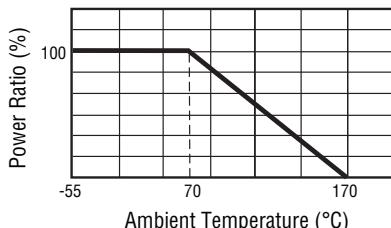
Packaging: 4000 pieces per 180 mm (7 inch) reel

CRE2512 Resistance Values Available

Code	R Value	Code	R Value
R001	0.0010	R006	0.0060
R002	0.0020	R007	0.0070
R003	0.0030	R008	0.0080
R004	0.0040	R009	0.0090
R005	0.0050		

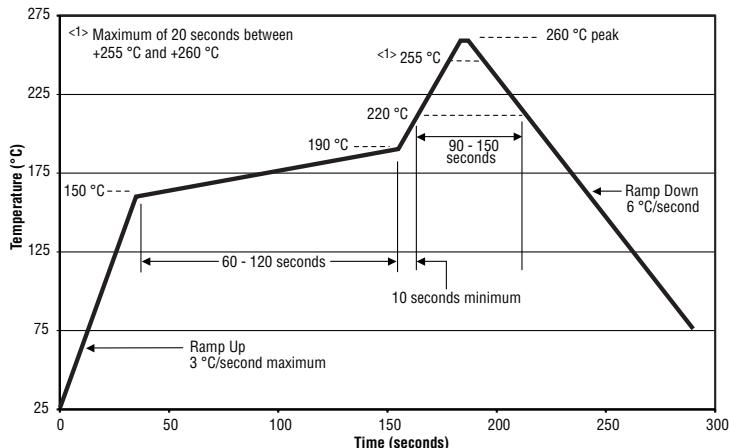
Consult factory for other resistance values.

Derating Curve



Soldering Profile

Can be soldered in accordance with IPC/JEDEC-J-STD-020.



How to Order

Environmental Specifications

Moisture Sensitivity Level 1
ESD Classification (HBM) 1A

Model _____
CRE = Precision Chip Resistor

Size _____

2512 = 2512 Size

Resistance Tolerance
 $F = \pm 1\%$
TCB _____

Z = ± 50 PPM/°C
Resistance Value _____

"R" (decimal point) followed by three signi-
Packaging _____

E = 4000 pcf
Power Rating —
2 = 2 Watts
3 = 3 Watts

CBE 2512 - F Z - B001 E - 2

REV. 06/19

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