Features

- Mn/Cu alloy resistor
- Power rating at 70 °C: 2 W, 3 W
- Inductance less than 5 nH
- Low thermal EMF <3 µV/°C
- 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

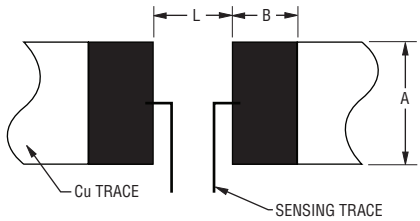
Test	Conditions	Specification
Thermal Shock	-55 ˚C to + 150 ˚C, 1000 Cycles, 15 minutes	ΔR < ±0.5 %
Short Time Overload	5 X Rated Power for 5 seconds	ΔR < ±0.5 %
Low Temperature Storage	-55 ˚C for 24 hours	ΔR < ±0.5 %
High Temperature Exposure	1000 hours @ + 170 ˚C	ΔR < ±1.0 %
Bias Humidity	+ 85 ˚C, 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%

Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

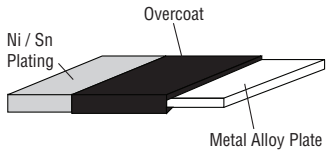
Recommended Solder Pad Layout



Model	Dimension		
	A	B	L
CRE2512-R001 ~ CRE2512-R004	4.0 (0.157)	3.1 (0.122)	1.3 (0.051)
CRE2512-R005 ~ CRE2512-R009	4.0 (0.157)	2.1 (0.083)	4.1 (0.161)

DIMENSIONS: MM / (INCHES)

Construction



Typical Part Marking

CRE2512-R001 ~ CRE2512-R004

CRE2512-R005 ~ CRE2512-R009

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.
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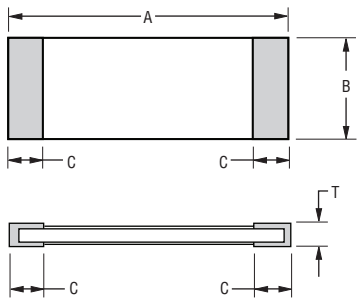
CRE2512 - High Power Current Sense Chip Resistor

BOURNS®

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)	0.90 ± 0.20 (0.035 ± 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)	0.90 ± 0.20 (0.035 ± 0.008)

DIMENSIONS: MM / (INCHES)

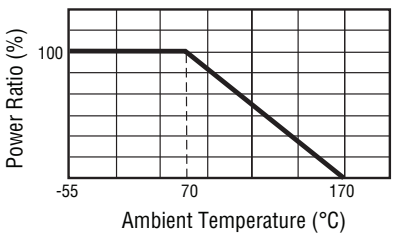


CRE2512 Resistance Values Available

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

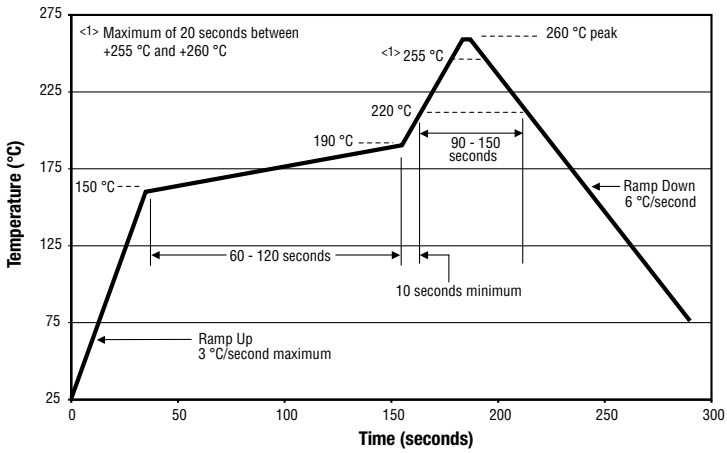


Environmental Specifications

Moisture Sensitivity Level 1

Soldering Profile

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



How to Order

CRE 2512 - F Z - R001 E - 2

Model
CRE = Precision Chip Resistor

Size
2512 = 2512 Size

Resistance Tolerance
F = ±1 %

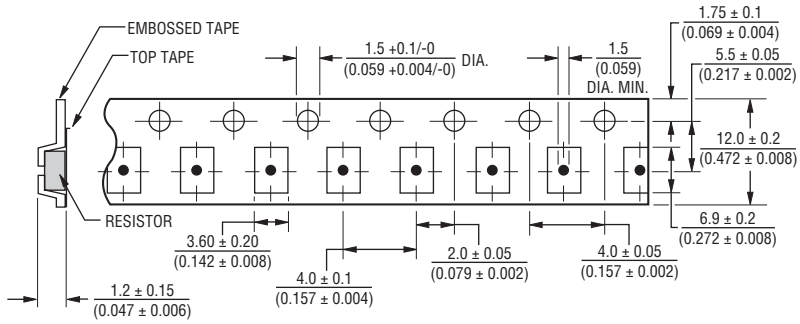
TCR
Z = ±50 PPM/°C

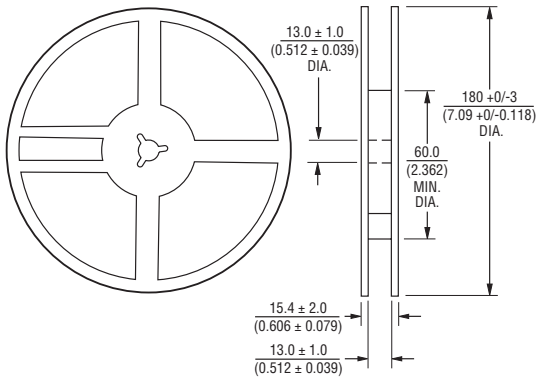
Resistance Value
"R" (decimal point) followed by three significant digits (example: R004 = 0.0040 ohm)

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

Power Rating
2 = 2 Watts
3 = 3 Watts

Packaging Dimensions (Conforms to EIA RS-481A)





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

USER DIRECTION OF FEED

DIMENSIONS: MM / (INCHES)

REV. 06/25

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