

Features

- Thick film technology
- Power rating of 0.25, 0.5 or 1 watt at 70 °C
- Strong pulse performance
- RoHS compliant*

Applications

- Power supplies
- Stepper motor drives

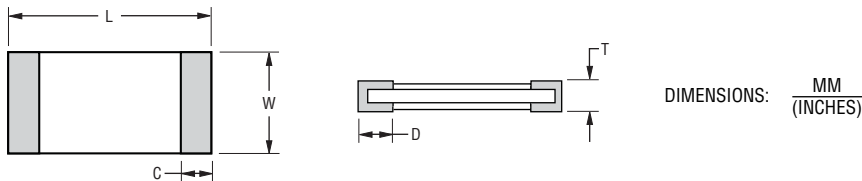
BOURNS®

CRM0805/1206/2010 Chip Resistors

Electrical Characteristics

Characteristic	Model CRM0805	Model CRM1206	Model CRM2010
Power Rating @ 70 °C	0.25 W	0.5 W	1 W
Operating Temperature Range	-55 °C to +155 °C		
Derated to Zero Load at	+155 °C		
Maximum Working Voltage 0.047 to 0.91 ohms 1.0 ohm to 1.0 megohm	477 mV 150 V	675 mV 200 V	954 mV 200 V
Insulation Resistance	>1000 megohms		
Resistance Range	0.047 - 1 megohm		
Resistance Tolerance	±1 %, ±5 %		
Temperature Coefficient 0.047 to 0.091 ohms 0.100 to 0.91 ohms 1.0 ohm to 1 megohm 10 ohms to 1 megohm	±150 PPM/°C ±100 PPM/°C ±200 PPM/°C (Tolerance 5 %, E24 Values) ±100 PPM/°C (Tolerance 1 %, E96 Values)		

Product Dimensions



Model	L	W	C	D	T
CRM0805	$\frac{2.00 \pm 0.15}{(0.079 \pm 0.006)}$	$\frac{1.20 \pm 0.15}{(0.047 \pm 0.006)}$	$\frac{0.40 \pm 0.20}{(0.016 \pm 0.008)}$	$\frac{0.40 \pm 0.20}{(0.016 \pm 0.008)}$	$\frac{0.50 \pm 0.10}{(0.020 \pm 0.004)}$
CRM1206	$\frac{3.10 \pm 0.15}{(0.122 \pm 0.006)}$	$\frac{1.60 \pm 0.15}{(0.063 \pm 0.006)}$	$\frac{0.50 \pm 0.25}{(0.020 \pm 0.010)}$	$\frac{0.50 \pm 0.25}{(0.020 \pm 0.010)}$	$\frac{0.55 \pm 0.10}{(0.022 \pm 0.004)}$
CRM2010	$\frac{5.00 \pm 0.20}{(0.197 \pm 0.008)}$	$\frac{2.50 \pm 0.20}{(0.098 \pm 0.008)}$	$\frac{0.60 \pm 0.25}{(0.024 \pm 0.010)}$	$\frac{0.60 \pm 0.25}{(0.024 \pm 0.010)}$	$\frac{0.60 \pm 0.10}{(0.024 \pm 0.004)}$

Recommended Solder Pad Layout

Model	A	B	L
CRM0805	$\frac{1.3}{(0.051)}$	$\frac{1.15}{(0.045)}$	$\frac{1.2}{(0.047)}$
CRM1206	$\frac{1.8}{(0.071)}$	$\frac{1.3}{(0.051)}$	$\frac{2.1}{(0.083)}$
CRM2010	$\frac{3.0}{(0.118)}$	$\frac{1.5}{(0.059)}$	$\frac{3.8}{(0.149)}$

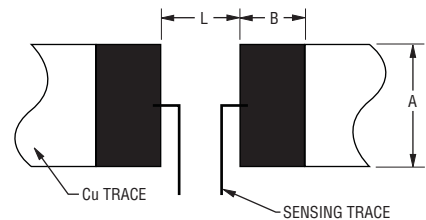
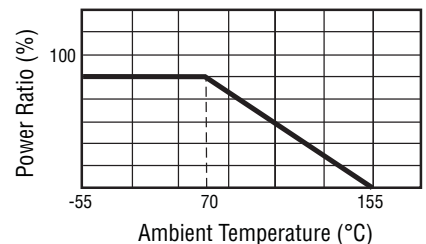
General Information

Bourns® CRM Series are thick film chip resistors with high power ratings making them suitable for different applications in power supply circuits including current sensing, current limiting and high pulse resistance.

Characteristic Data

Test	ΔR Max.
Load Life (1000 hours) Rated Voltage @ 70 °C (1.5 hrs. on, 0.5 hrs. off) 1 % Tolerance 5 % Tolerance	< 1 % < 3 %
Short Term Overload (5 X Rated Power for 5 sec.) 1 % Tolerance 5 % Tolerance	< 1 % < 2 %
Thermal Shock (5 Cycles: -55 °C/30 min.; +25 °C/2-3 min.; +155 °C/ 30 min.; +25 °C/2-3 min.) 1 % Tolerance 5 % Tolerance	< 0.5 % < 1 %

Derating Curve



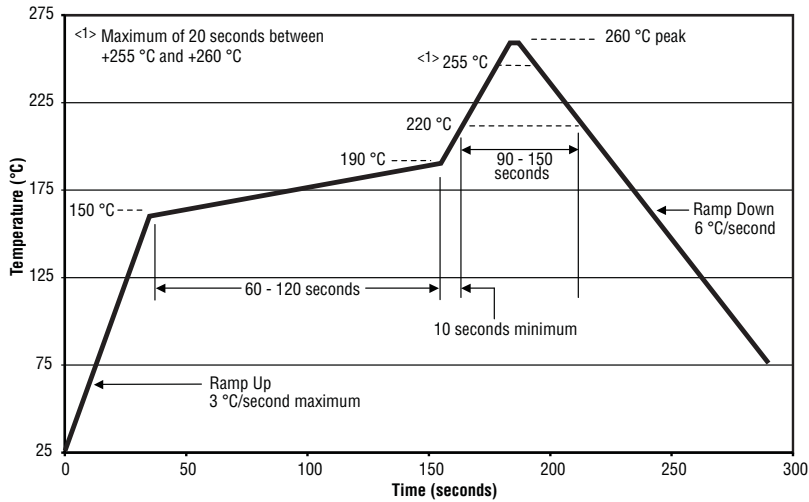
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

*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.

CRM0805/1206/2010 Chip Resistors



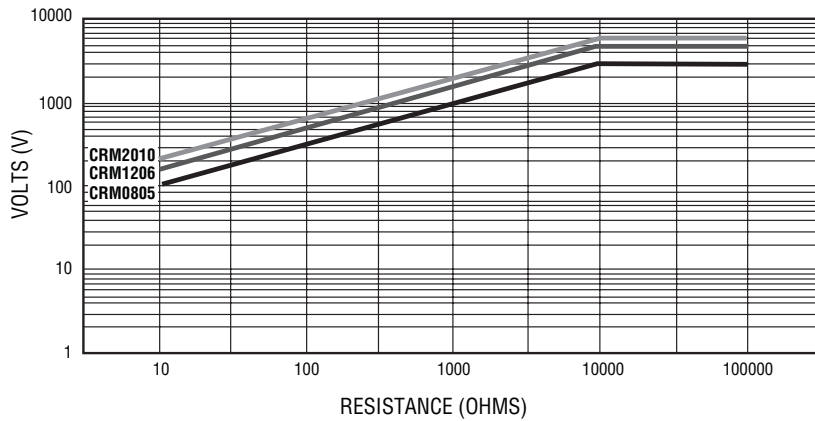
Soldering Profile



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		

Pulse Voltage Curve



Test Method: 1.2/50 μ s Waveform with 12 Ohm Resistor, 5 Pulses at 12 Second Intervals

CRM0805/1206/2010 Chip Resistors

BOURNS®

How to Order

CRM 2010 - F X - R100 E LF

Model _____
 (CRM = Precision Chip Resistor)

Size _____
 0805 = 0805 Size
 1206 = 1206 Size
 2010 = 2010 Size

Resistance Tolerance _____
 • F = ±1 %
 • J = ±5 %

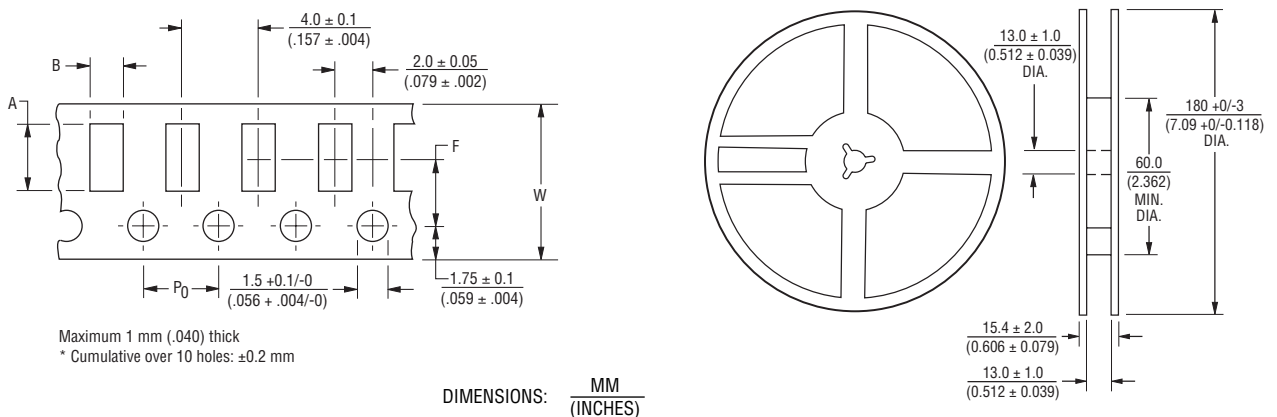
TCR (PPM/°C) _____
 • W = ±200 PPM/°C
 • Z = ±150 PPM/°C
 • X = ±100 PPM/°C

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 = 5000 pieces on 180 mm (7 inch) reel - CRM0805, CRM1206
 4000 pieces on 180 mm (7 inch) reel - CRM2010

Termination _____
 • LF = Tin-plated (RoHS Compliant)

Packaging Dimensions (Conforms to EIA RS-481A)



Model	A	B	F	W
CRM0805	$\frac{2.40 \pm 0.20}{(0.094 \pm 0.008)}$	$\frac{1.65 \pm 0.20}{(0.065 \pm 0.008)}$	$\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$	$\frac{8.00 \pm 0.30}{(0.315 \pm 0.012)}$
CRM1206	$\frac{3.57 \pm 0.20}{(0.141 \pm 0.008)}$	$\frac{2.00 \pm 0.20}{(0.079 \pm 0.008)}$	$\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$	$\frac{8.00 \pm 0.30}{(0.315 \pm 0.012)}$
CRM2010	$\frac{5.50 \pm 0.20}{(0.217 \pm 0.008)}$	$\frac{2.80 \pm 0.20}{(0.110 \pm 0.008)}$	$\frac{5.50 \pm 0.05}{(0.217 \pm 0.002)}$	$\frac{12.00 \pm 0.30}{(0.472 \pm 0.012)}$

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Bourns:

[CRM2010-JW-1R0ELF](#) [CRM2010-JW-4R7ELF](#) [CRM1206-FX-R100ELF](#) [CRM2010-FX-51R0ELF](#) [CRM2010-FX-R100ELF](#)