

Features

- 0.1 % tolerance from 100 ohms to 360K ohms
- RoHS compliant*
- Three layer contacting process with nickel barrier helps prevent leaching and provides excellent solderability



CRP Series - Precision Chip Resistors

Electrical Characteristics

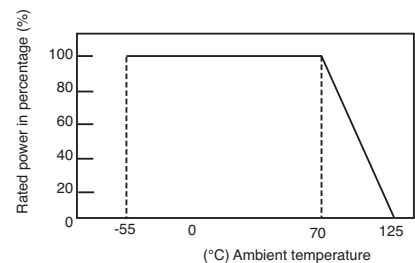
| Characteristic | Model CRP0603 | Model CRP0805 | Model CRP1206 |
|--|---|---|---|
| Power Rating @ 70 °C | 1/10 W | 1/8 W | 1/4W |
| Operating Temperature Range | -55 °C to +125 °C | | |
| Derated to Zero Load at | +125 °C | | |
| Maximum Working Voltage | 50 V | 150 V | 200 V |
| Maximum Overload Voltage | 100 V | 300 V | 400 V |
| Resistance Range: (E-96 + E-24 Values) | 100 ohms to 360K ohms | | |
| Temperature Coefficient ±50 PPM/°C ±100 PPM/°C | 100 ohms to 35.7K ohms 36K ohms to 100K ohms | 100 ohms to 100K ohms 102K ohms to 360K ohms | 100 ohms to 100K ohms 102K ohms to 360K ohms |

Characteristic Data

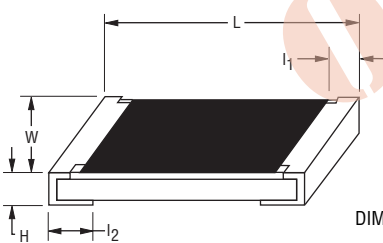
| Tests per IEC115-1 | ΔR Max. |
|---------------------------------|----------------------|
| Load Life (1000 Hours) | ±(0.5 % + 0.05 ohms) |
| Load Life Humidity (1000 Hours) | ±(0.5 % + 0.05 ohms) |
| Short Time Overload | ±(0.5 % + 0.05 ohms) |

For Standard Values Used in Capacitors, Inductors, and Resistors, [click here](#).

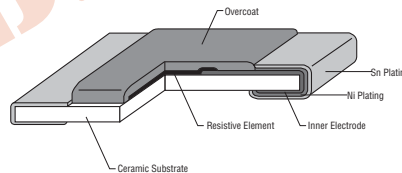
Derating Curve



Dimensional Drawing



Construction



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

Chip Dimensions

| Dimension | Model CRP0603 | Model CRP0805 | Model CRP1206 |
|----------------|--|--|--|
| L | $\frac{1.60 \pm 0.10}{(0.063 \pm .004)}$ | $\frac{2.00 \pm 0.15}{(0.079 \pm .006)}$ | $\frac{3.10 \pm 0.15}{(0.122 \pm .006)}$ |
| W | $\frac{0.80 \pm 0.10}{(0.031 \pm .004)}$ | $\frac{1.20 \pm 0.15}{(0.047 \pm .006)}$ | $\frac{1.60 \pm 0.15}{(0.063 \pm .006)}$ |
| H | $\frac{0.45 \pm 0.15}{(0.018 \pm .006)}$ | $\frac{0.50 \pm 0.10}{(0.020 \pm .004)}$ | $\frac{0.50 \pm 0.15}{(0.020 \pm .006)}$ |
| l ₁ | $\frac{0.35 \pm 0.25}{(0.014 \pm .010)}$ | $\frac{0.40 \pm 0.20}{(0.016 \pm .008)}$ | $\frac{0.50 \pm 0.30}{(0.020 \pm .012)}$ |
| l ₂ | $\frac{0.40 \pm 0.20}{(0.016 \pm .008)}$ | $\frac{0.40 \pm 0.20}{(0.016 \pm .008)}$ | $\frac{0.50 \pm 0.25}{(0.020 \pm .010)}$ |

*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.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

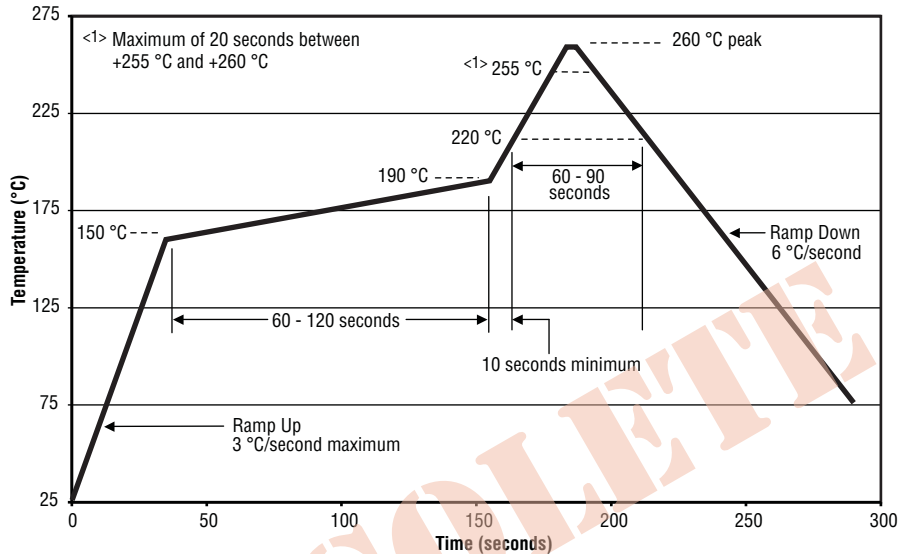
Features (Continued)

- Suitable for most types of soldering processes
- Paper tape on reel for automatic placement

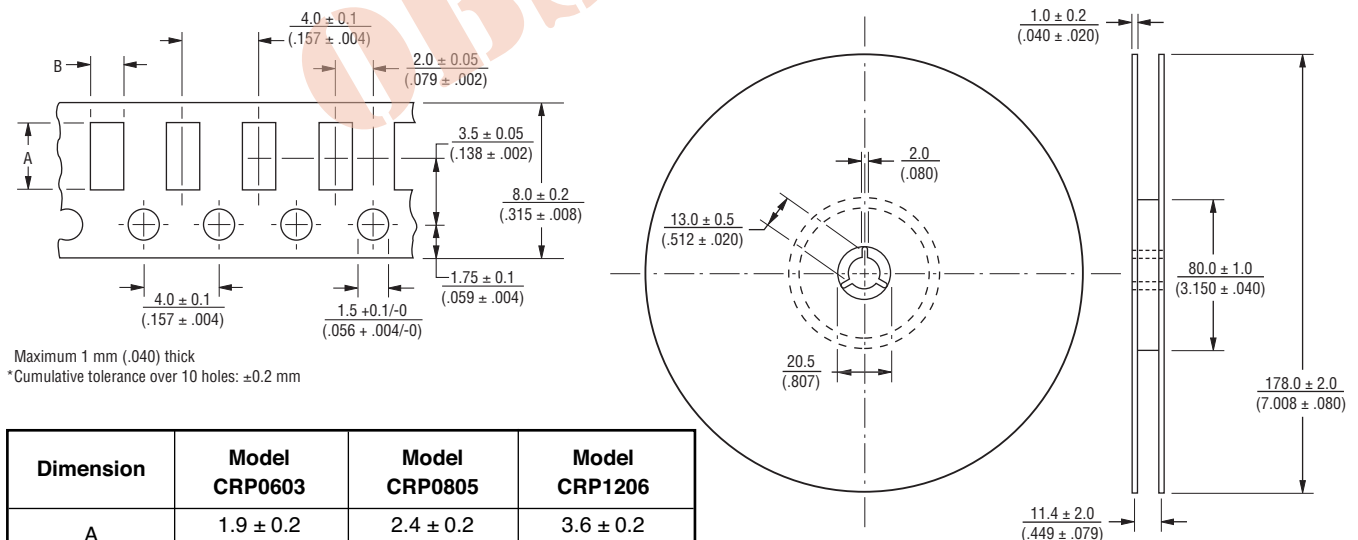
CRP Series - Precision Chip Resistors

BOURNS®

Soldering Profile for RoHS Compliant Chip Resistors and Arrays



Packaging Dimensions (Conforms to EIA RS-481A)



Marking on reel: Part number, quantity, resistance value and tolerance, date code.

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CRP Series - Precision Chip Resistors

BOURNS®

Resistor Markings

CRP0603
EIA-96 Marking



0.1 % marking
Value = 12.4K ohms

Marking Explanation

E-24:

- 3 digits; first two digits are significant, third digit is number of zeroes to follow.

E-96:

- 0603 size, EIA-96 marked per table below.
- 0805 and 1206 size, marked with 4 digits. First three digits are significant, fourth digit is number of zeroes to follow.

EIA-96 Marking for CRP0603, 0.1 %

| Code | R Value | Code | R Value | Code | R Value | Code | R Value | Code | R Value | Code | R Value | Code | R Value | Code | R Value |
|------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|
| 01 | 100 | 13 | 133 | 25 | 178 | 37 | 237 | 49 | 316 | 61 | 422 | 73 | 562 | 85 | 750 |
| 02 | 102 | 14 | 137 | 26 | 182 | 38 | 243 | 50 | 324 | 62 | 432 | 74 | 576 | 86 | 768 |
| 03 | 105 | 15 | 140 | 27 | 187 | 39 | 249 | 51 | 332 | 63 | 442 | 75 | 590 | 87 | 787 |
| 04 | 107 | 16 | 143 | 28 | 191 | 40 | 255 | 52 | 340 | 64 | 453 | 76 | 604 | 88 | 806 |
| 05 | 110 | 17 | 147 | 29 | 196 | 41 | 261 | 53 | 348 | 65 | 464 | 77 | 619 | 89 | 825 |
| 06 | 113 | 18 | 150 | 30 | 200 | 42 | 267 | 54 | 357 | 66 | 475 | 78 | 634 | 90 | 845 |
| 07 | 115 | 19 | 154 | 31 | 205 | 43 | 274 | 55 | 365 | 67 | 487 | 79 | 649 | 91 | 866 |
| 08 | 118 | 20 | 158 | 32 | 210 | 44 | 280 | 56 | 374 | 68 | 499 | 80 | 665 | 92 | 887 |
| 09 | 121 | 21 | 162 | 33 | 215 | 45 | 287 | 57 | 383 | 69 | 511 | 81 | 681 | 93 | 909 |
| 10 | 124 | 22 | 165 | 34 | 221 | 46 | 294 | 58 | 392 | 70 | 523 | 82 | 698 | 94 | 931 |
| 11 | 127 | 23 | 169 | 35 | 226 | 47 | 301 | 59 | 402 | 71 | 536 | 83 | 715 | 95 | 953 |
| 12 | 130 | 24 | 174 | 36 | 232 | 48 | 309 | 60 | 412 | 72 | 549 | 84 | 732 | 96 | 976 |

This table shows the first two digits for the three-digit EIA-96 part marking scheme. The third character is a letter multiplier:
Y=10⁻² X=10⁻¹ A=10⁰ B=10¹ C=10² D=10³ E=10⁴ F=10⁵

How to Order

CRP 0603 - B Z - 7871 E LF

Model _____
(CRP = Precision Chip Resistor)

Size _____
0603 = 0603 Size
0805 = 0805 Size
1206 = 1206 Size

Resistance Tolerance _____
B = ±0.1 %

TCR (PPM/°C) _____
Z = ±50 PPM/°C, 100 ohms through 35.7K ohms (0603 size); 100 ohms through 100K ohms (0805 and 1206 size)
X = ±100 PPM/°C, 36K ohms through 360K ohms (0603 size); 102K ohms through 360K ohms (0805 and 1206 size)

Resistance Value _____
First three digits are significant, fourth digit represents number of zeroes to follow (example: 7871 = 7.87K ohms)

Packaging _____
E = 5,000 pieces on 180 mm (7 inch) reel

Termination _____
LF = Tin-plated (RoHS compliant)

REV. 09/15

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