

### **Features**

- Small package dimensions
- RoHS compliant\*
- Power rating at 70 °C = 1/16 W
- Tight dimensional tolerances
- Three layer termination process with nickel barrier prevents leaching and provides excellent solderability
- Suitable for most types of soldering processes
- Standard packaging on paper tape and reel

## CR0402 - Chip Resistor

#### **Electrical Characteristics**

Power Rating @ 70 °C .....1/16 W Operating Temperature Range

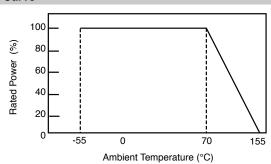
Derated to 0 Load at.......+155 °C Maximum Working Voltage......50 V Maximum Overload Voltage ......100 V Resistance Range

1 %, E-96

and E-24...... 10 ohms to 10 megohms 5 %, E-24 ....... 1 ohm to 20 megohms Zero Ohm Jumper ...........<0.05 ohms Temperature Coefficient

1 % .......10  $\Omega \le R \le 1$  M $\Omega \pm 100$  ppm/°C 1 M $\Omega < R \le 10$  M $\Omega \pm 200$  ppm/°C

#### **Derating Curve**



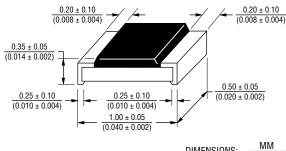
#### **Standard Values**

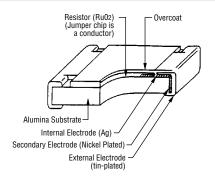
For Standard Values Used in Capacitors, Inductors, and Resistors, click here.

### Part Marking System

No Marking on the CR0402 Chip Resistors.

### **Dimensional Drawings**





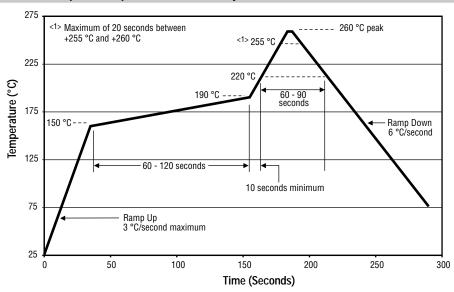
#### **Performance Characteristics**

Test	Procedure	Madhad	Test Limits ∆R	
		Method	1 %	5 %
Thermal Shock	-55 °C for 30 minutes, +155 °C for 30 minutes, 5 cycles	IEC60115-1-4.19	≤±(0.5 % + 0.05 Ω)	≤±(1 % + 0.05 Ω)
Short Time Overload	2.5 X rated voltage for 5 seconds	IEC60115-1-4.13	≤±(2 % + 0.1 Ω)	
Resistance to Solder Heat	270 ±5 °C for 10 ±1 seconds	IEC60115-1-4.18	$\leq \pm (0.5 \% + 0.05 \Omega)$	≤±(1 % + 0.05 Ω)
Resistance to Dry Heat	125 ±5 °C for 96 ±4 hours	IEC60115-1-4.23.2	≤±(1 % + 0.05 Ω)	≤±(2 % + 0.1 Ω)
Load Life	Rated voltage for 1000 hours, 70 °C, 1.5 hours "ON", 0.5 hours "OFF"	IEC60115-1-4.25.1	≤±(3 % + 0.1 Ω)	
Load Life with Humidity	Rated voltage for 1000 hours, 40 ±2 °C, 90~95 % RH, 1.5 hours "ON", 0.5 hours "OFF"	IEC60115-1-4.24	≤±(3 % + 0.1 Ω)	
Solderability	245 ±5 °C, 2 ±0.5 seconds	IEC60115-1-4.17	≥95 % of area covered	
Bending	3 mm	IEC60115-1-4.33	≤±(0.5 % + 0.05 Ω)	≤±(1 % + 0.05 Ω)
Dielectric Withstanding Voltage		IEC60115-1-4.7	>100 V	
Insulation Resistance	100 V	IEC60115-1-4.6	≥1 GΩ	

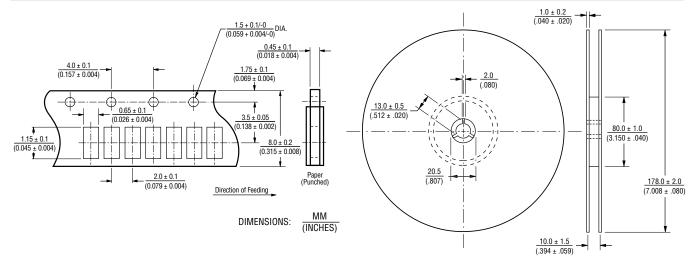
# CR0402 - Chip Resistor

# BOURNS

### Soldering Profile for RoHS Compliant Chip Resistors and Arrays



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



# CR0402 - Chip Resistor

## **BOURNS**

#### **How to Order** CR 0402 - F X - 8252 G LF Model (CR = Chip Resistor) Size • 0402 Resistance Tolerance - $F = \pm 1 \%$ ......Used with "X" TCR code only for values from 10 ohms through 1 megohm; and Used with "W" TCR code only for values above 1 megohm. through 10 megohms. Used with "Z" TCR code for values above 10 megohms through 20 megohms; Used with "/" TCR code for zero ohm (jumper); and for values from 1 ohm through 9.1 ohms. TCR (ppm/°C) - $X = \pm 100$ $W = \pm 200$ $Z = \pm 400$ / = -200 to +500Resistance Value ≥100 ohms.....First three digits are significant, fourth digit represents number of zeros to follow (example: 8252 = 82.5k ohms). For 5 % Tolerance: ≥10 ohms.....First two digits are significant, third digit represents number of zeros to follow (example: 474 = 470k ohms; 000 = Jumper). Packaging G = Paper Tape (10,000 pcs.) on 7 "Plastic Reel Termination

# **BOURNS**®

LF = Tin-plated (RoHS compliant)

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REV. 09/19

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Users should verify actual device performance in their specific applications.

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CR0402-JW-330GLF	CR0402-FX-1023GLF	CR0402-FX-1072GLF	CR0402-FX-10R5GLF	CR0402-FX-1132GLF
CR0402-FX-1150GLF	CR0402-FX-1151GLF	CR0402-FX-1153GLF	CR0402-FX-1180GLF	CR0402-FX-1181GLF
CR0402-FX-11R5GLF	CR0402-FX-1203GLF	CR0402-FX-1241GLF	CR0402-FX-1242GLF	CR0402-FX-1270GLF
CR0402-FX-1271GLF	CR0402-FX-1272GLF	CR0402-FX-12R1GLF	CR0402-FX-1330GLF	CR0402-FX-1332GLF
CR0402-FX-1371GLF	CR0402-FX-1372GLF	CR0402-FX-13R7GLF	CR0402-FX-1401GLF	CR0402-FX-1402GLF
CR0402-FX-1433GLF	CR0402-FX-1473GLF	CR0402-FX-14R0GLF	CR0402-FX-14R3GLF	CR0402-FX-1542GLF
CR0402-FX-1543GLF	CR0402-FX-1622GLF	CR0402-FX-1623GLF	CR0402-FX-1651GLF	CR0402-FX-1652GLF
CR0402-FX-1691GLF	CR0402-FX-1740GLF	CR0402-FX-1741GLF	CR0402-FX-1743GLF	CR0402-FX-1780GLF
CR0402-FX-1783GLF	CR0402-FX-17R4GLF	CR0402-FX-17R8GLF	CR0402-FX-1823GLF	CR0402-FX-1871GLF
CR0402-FX-1911GLF	CR0402-FX-1961GLF	CR0402-FX-19R6GLF	CR0402-FX-2051GLF	CR0402-FX-2101GLF
CR0402-FX-2103GLF	CR0402-FX-21R0GLF	CR0402-FX-2261GLF	CR0402-FX-2323GLF	CR0402-FX-2433GLF
CR0402-FX-2493GLF	CR0402-FX-24R3GLF	CR0402-FX-2553GLF	CR0402-FX-2612GLF	CR0402-FX-2671GLF
CR0402-FX-2672GLF	CR0402-FX-2740GLF	CR0402-FX-2743GLF	CR0402-FX-27R4GLF	CR0402-FX-2802GLF
CR0402-FX-2803GLF	CR0402-FX-2872GLF	CR0402-FX-2873GLF	CR0402-FX-28R0GLF	CR0402-FX-2941GLF
CR0402-FX-2942GLF	CR0402-FX-29R4GLF	CR0402-FX-3013GLF	CR0402-FX-3091GLF	CR0402-FX-30R9GLF
CR0402-FX-3160GLF	CR0402-FX-3241GLF	CR0402-FX-3243GLF	CR0402-FX-3322GLF	CR0402-FX-3323GLF
CR0402-FX-3402GLF	CR0402-FX-3403GLF	CR0402-FX-3480GLF	CR0402-FX-3482GLF	CR0402-FX-3483GLF
CR0402-FX-34R8GLF	CR0402-FX-3570GLF	CR0402-FX-3571GLF	CR0402-FX-3572GLF	CR0402-FX-3573GLF
CR0402-FX-3650GLF	CR0402-FX-36R5GLF	CR0402-FX-3741GLF	CR0402-FX-4020GLF	CR0402-FX-4120GLF