

Common Quality Anti-Sulfurized Chip Resistor (AEC-Q200)

Performance Specification

Test Item	Test Methods	Determine Specification
Temperature Coefficient	Measure between: -55 °C ~ +125 °C	0.1Ω ~ 0.99Ω ±800PPM/°C 1Ω ~ 10Ω ±400PPM/°C 10.1Ω ~ 100Ω ±200PPM/°C >100Ω ±100PPM/°C
Short Time Overload	2.5 x rated voltage or Max. Overload Voltage whichever is lower for 5 seconds, then check the resistance.	±1% : ±(1.0% + 0.1Ω)Max ±5% : ±(2.0% + 0.1Ω)Max
Terminal Bending	Duration: 60s ± 5s, then check the resistance.	±(1.0% + 0.05Ω)Max
Solderability	245 ± 3 °C, 2 ~ 3s	95% coverage Min
Soldering Heat	260 ± 5 °C, 10 ± 1s	±(1.0% + 0.05Ω)Max
Moisture Resistance	25 °C ~ 65 °C, 90 ~ 100%RH, 2.5H, 65 °C 90 ~ 100%RH, 3H, 65 °C ~ 25 °C, 80 ~ 100%RH, 2.5H, 10 cycles, Measurement at 24 hours after test conclusion. MIL-STD-202 Method 106	±1% : ±(0.5% + 0.1Ω)Max ±5% : ±(3.0% + 0.1Ω)Max
Biased Humidity	10% rated power, 85 °C/85%RH, 1000H, Measurement at 24 hours after test conclusion. MIL-STD-202 Method 103	±1% : ±(1.0% + 0.1Ω)Max ±5% : ±(3.0% + 0.1Ω)Max
Dielectric Withstanding Voltage	Resistor shall be clamped in the trough of 90 metallic V-block and shall be tested at AC potential respectively specified in the given list of each product type for 60 ~ 70s.	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Temperature Cycling	-55 ± 3 °C 30min ~ normal temperature 10min-15min ~ 155 ± 2 °C 30min ~ normal temperature 10min-15min 100 cycles, Measurement at 24 hours after test conclusion. JESD22 Method JA-104	±1% : ±(0.5% + 0.1Ω)Max ±5% : ±(1.0% + 0.1Ω)Max
Load Life	125 °C, at 35% rated power, Measurement at 24 ± 2 hours after test conclusion. MIL-STD-202 Method 108	±1% : ±(1.0% + 0.1Ω)Max ±5% : ±(3.0% + 0.1Ω)Max
Anti-Sulfurized test	H ₂ S 3 ~ 5ppm, 50 °C ± 2 °C, 91% ~ 93%RH, 1000H	±5% : ±(5.0% + 0.1Ω)Max ±1% : ±(1.0% + 0.1Ω)Max

Ordering Procedure: Ex.: CQ06, 1/4W-S, +/-5%, 10Ω T/R5000

C	Q	0	6	S	4	J	0	1	0	0	T	5	E
Resistor Size: CQ02 = 0402, CQ03 = 0603, CQ05 = 0805, CQ06 = 1206, CQ07 = 1210, CQ10 = 2010, CQ12 = 2512				Resistance Value: <ul style="list-style-type: none"> E-24 series: 1st digit is "0" 2nd & 3rd digits are significant figures of the resistance 4th indicates the number of zeros E-96 series: 1st to 3rd digits are significant figures of the resistance 4th digit indicates the number of zeros. "J" ~ 0.1, "K" ~ 0.01, "L" ~ 0.001 Jumper : use "0" for 1st to 4th digits 				Packing Type: T = Tape/Reel		Packing Qty: 1 = 1,000 pcs. 2 = 2,000 pcs. 4 = 4,000 pcs. 5 = 5,000 pcs. A = 500 pcs. C = 10,000 pcs. D = 20,000 pcs. E = 15,000 pcs.		Special Feature: E = Lead (Pb) Free Plating Type/ RoHS compliant	
Wattage: Normal size: WH=1/32W, WM=1/20W, WG=1/16W, WA=1/10W, W8=1/8W, W4=1/4W, W2=1/2W, 1W=1W Small size: SA=1/10W-S, S8=1/8W-S, S4=1/4W-S, S3=1/3W-S, 07=3/4W-S, U2=1/2W-SS Applicable for Wide Terminal only: WJ=1.5W, 2W, 3W				Tolerance: F = ±1% G = ±2% J = ±5%									



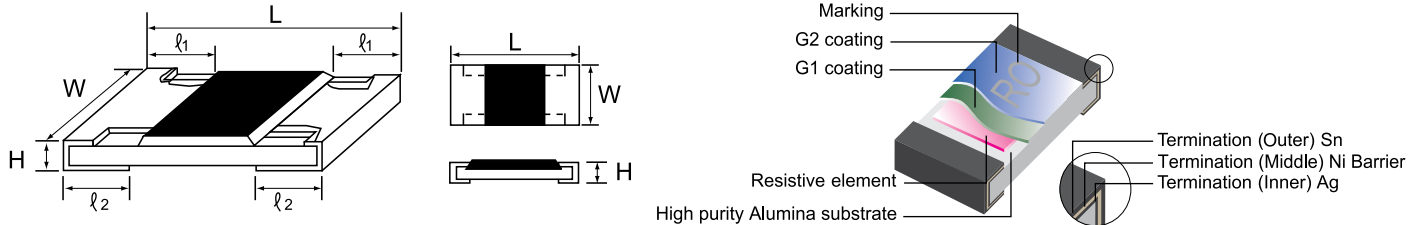
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Features

- Small size and light weight
- Suitable for both wave and reflow soldering
- Reduction of assembly costs
- Automotive application with Anti Sulfurized Performance
- The relevant provisions of AEC-Q200



Dimension



Type	Power Rating at 70°C	Max Working Voltage/Current	Max Overload Voltage/Current	Dielectric Withstanding Voltage	Tolerance %	Resistance Range	Dimension (mm)				
							L	W	H	l ₁	l ₂
CQ02 (0402)	1/16W	1A	2A	100V	Jumper	<50mΩ	1.00±0.10	0.50±0.05	0.35±0.05	0.20±0.10	0.25±0.10
		50V	100V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					
CQ03 (0603)	1/10W-S 1/16W	1A	2A	100V	Jumper	<50mΩ	1.60±0.10	0.80 ^{+0.15} -0.10	0.45±0.10	0.30±0.20	0.30±0.20
		50V	100V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					
CQ05 (0805)	1/8W-S 1/10W	2A	5A	300V	Jumper	<50mΩ	2.00±0.15	1.25 ^{+0.15} -0.10	0.55±0.10	0.40±0.20	0.40±0.20
		150V	300V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					
CQ06 (1206)	1/4W-S 1/8W	2A	10A	400V	Jumper	<50mΩ	3.10±0.15	1.55 ^{+0.15} -0.10	0.55±0.10	0.45±0.20	0.45±0.20
		200V	400V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					
CQ07 (1210)	1/2W-SS 1/3W-S 1/4W	2A	10A	500V	Jumper	<50mΩ	3.10±0.10	2.60±0.20	0.55±0.10	0.50±0.25	0.50±0.20
		200V	500V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					
CQ10 (2010)	3/4W-S 1/2W	2A	10A	500V	Jumper	<50mΩ	5.00±0.10	2.50±0.20	0.55±0.10	0.60±0.25	0.50±0.20
		200V	500V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					
CQ12 (2512)	1W	2A	10A	500V	Jumper	<50mΩ	6.35±0.10	3.20±0.20	0.55±0.10	0.60±0.25	0.50±0.20
		200V	500V		±1% ±2% ±5%	10Ω ~ 1MΩ 1Ω ~ 10MΩ 1Ω ~ 10MΩ					

Note:

- 1.) Metric information inside parenthesis.
- 2.) Standard Operating Temp (°C): -55 ~ +155
- 3.) Standard: E-96 series: 0.5%, 1%
E-24 series: 2%, 5%
- 4.) Low resistance range (0.1Ω ~ 0.99Ω) is also available for CQ02, CQ03, CQ05, CQ06, CQ07, CQ10 and CQ12

Derating Curve

