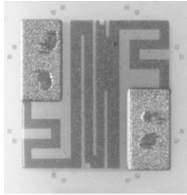


# Thin Film 0202 Size Resistor on Alumina



Product may not be to scale

The CC8 series resistor chips offer a combination of low shunt capacitance, small size and excellent stability. The CC8s are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CC8s are 100% electrically tested and visually inspected to MIL-STD-883.

### APPLICATIONS

Vishay EFI CC8 chip resistors provide excellent high-frequency response and are ideally suited for prototyping. Typical application areas are:

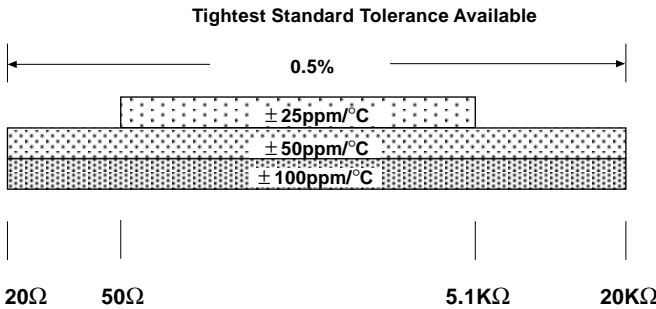
- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

Recommended for hermetic environment where die is not exposed to moisture.

### FEATURES

- Chip size: 0.020 inches square
- Resistance range: 20Ω to 20kΩ
- Alumina substrate
- Low stray capacitance: < 0.2pF
- Resistor material: nichrome with passivation coat
- Tolerances to 0.5%

### TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



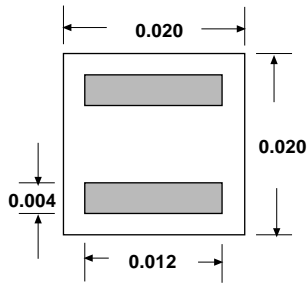
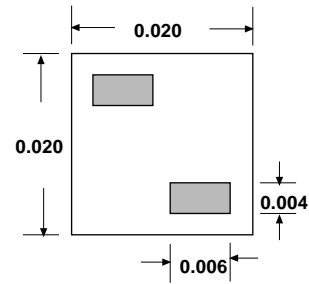
PROCESS CODE	
CLASS H*	CLASS K*
303	308
302	307
301	306

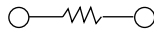
\*MIL-PRF-38534

### STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308	- 20dB typical
Moisture resistance, MIL-STD-202 Method 106 (Passivated film)	± 0.5% maximum ΔR/R
Stability, 1000 hours, + 125°C, 25mW	± 0.2% maximum ΔR/R
Operating temperature range	- 55°C to + 125°C
Thermal shock, MIL-STD-202, Method 107, Test condition F	± 0.25% maximum ΔR/R
High temperature exposure, + 150°C, 1000 hours	± 0.5% maximum ΔR/R
Dielectric voltage breakdown	400V
Insulation resistance	10 <sup>12</sup> minimum
Operating voltage	100V maximum
DC power rating at + 70°C (derated to zero at 150°C)	35mW maximum
5 x rated power short-time overload, + 25°C, 5 seconds	± 0.25% maximum ΔR/R

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**DIMENSIONS** in inches

**TYPICAL RANGE**  
 20Ω - 49Ω

**TYPICAL RANGE**  
 50Ω - 20KΩ

**SCHEMATIC**

**MECHANICAL SPECIFICATIONS** in inches

PARAMETER	
Chip size	0.020 x 0.020 ± 0.003 (0.5 x 0.5 ± 0.08mm)
Chip thickness	0.010 ± 0.002 (0.25 ± 0.05mm)
Chip substrate material	99.6% alumina, 2 - 4 microinch finish
Resistor material	Nichrome
Bonding pad size	0.004 x 0.006 (0.10 x 0.15mm) minimum
Number of pads	2
Pad material	25kÅ minimum gold standard
Passivation	Thermalset Plastic
Backing	None

**OPTIONS:** Gold back for solder die attach  
 Contact Applications Engineer

**ORDERING INFORMATION**

Example: 100% visualled, 50Ω, ± 10%, ± 50ppm/°C TCR - Passivated, Gold Pads, Class H

P/N:	W	CC8	302	5000	B	K
	INSPECTION /PACKAGING	PRODUCT FAMILY	PROCESS CODE	RESISTANCE VALUE	MULTIPLIER CODE	TOLERANCE CODE
	W = 100% visually inspected parts in matrix tray per MIL-STD-883 X = Sample commercial visually inspected loaded in matrix trays (4% AQL)		See Process Code table	Use first 4 significant digits of resistance	B = 0.01 A = 0.1 0 = 1 1 = 10	D = 0.5% F = 1.0% G = 2.0% H = 2.5% J = 5.0% K = 10% M = 20% L = 25% N = 50%