

Thin Film 0510 Size Resistor on Alumina



Product may not be to scale

The CC4 series single-value resistor chips offer increased power in larger size, low shunt capacitance and solder pad option. The CC4s nichrome resistor material offers excellent stability.

The CC4s are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CC4s are 100 % electrically tested and visually inspected to MIL-STD-883.

FEATURES

- Wire bondable
- Chip size: 0.050 x 0.100 inches
- Resistance range: 50 Ω to 400 kΩ
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Resistor material: Nichrome
- Resistor passivation coat optional
- Tolerances to 0.05 %
- Solder pad optional

APPLICATIONS

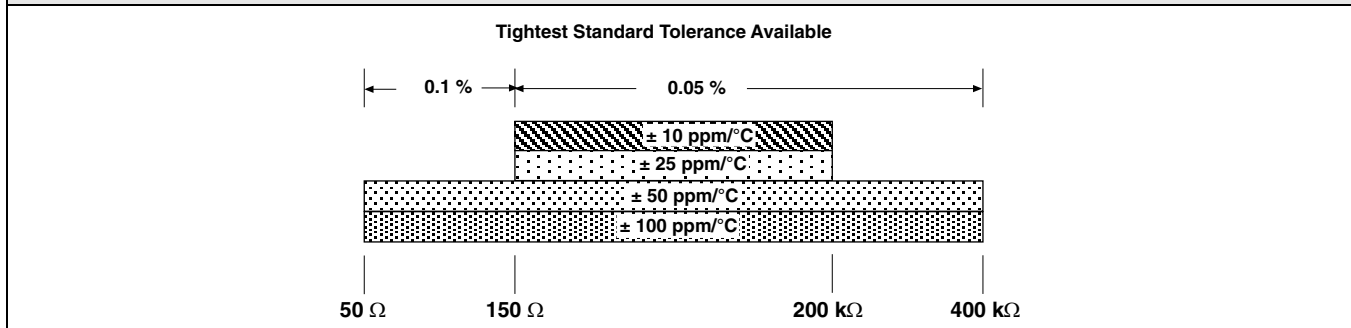
Vishay EFI CC4 chip resistors provide excellent high-frequency response and are ideally suited for prototyping.

Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

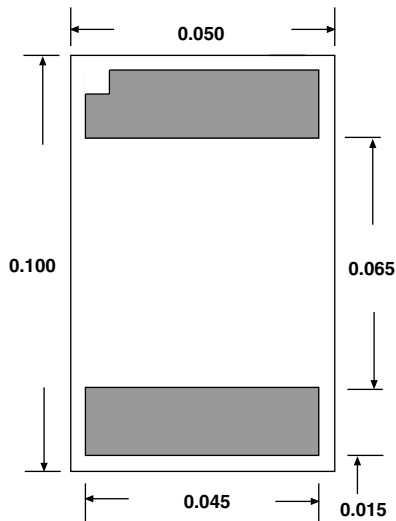
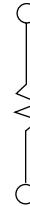
Recommended for hermetic environments where die is not exposed to moisture.

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308	- 20 dB typ.
Moisture Resistance, MIL-STD-202 Method 106 - Hermetic Applications	± 0.2 % max. ΔR/R
Stability, 1000 h, + 125 °C, 175 mW	± 0.1 % max. ΔR/R
Operating Temperature Range	- 55 °C to + 125 °C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.25 % max. ΔR/R
High Temperature Exposure, + 150 °C, 100 h	± 0.1 % max. ΔR/R
Dielectric Voltage Breakdown	400 V
Insulation Resistance	10 ¹² min.
Operating Voltage	100 V max.
DC Power Rating at + 125 °C (Derated to Zero at + 150 °C)	175 mW max.
5 x Rated Power Short-Time Overload, + 25 °C, 5 s	± 0.25 % max. ΔR/R

DIMENSIONS in inches

SCHEMATIC


MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip Size	0.050 x 0.100 ± 0.003 (1.27 x 2.54 ± 0.076 mm)
Chip Thickness	0.010 ± 0.002 (0.254 ± 0.05 mm)
Chip Substrate Material	99.6 % alumina, 2 - 4 microinch finish
Resistor Material	Nichrome
Bonding Pad Size	0.015 x 0.045 (0.381 x 1.143 mm) minimum
Number of Pads	2
Pad Material	25 kÅ minimum gold standard
Backing	None

Options: Terminations: Aluminum, nickel solder (62/32)
 Gold back for solder die attach
 Contact Applications Engineer

ORDERING INFORMATION						
Example: 100 % visual, 80 Ω, ± 10 %, ± 50 ppm/°C TCR, gold terminations						
W	CC4	8000	B	K	D	G
INSPECTION /PACKAGING	PRODUCT FAMILY	RESISTANCE VALUE	MULTIPLIER CODE	TOLERANCE CODE	TCR	TERMINATIONS
W = 100 % visually inspected parts in matrix tray per MIL-STD-883 X = Sample, commercial visually inspected parts loaded in matrix trays (4 % AQL)		Use first 4 significant digits of resistance	B = 0.01 A = 0.1 0 = 1 1 = 10 2 = 100	A = 0.05 %* B = 0.1 %* C = 0.25 %* D = 0.5 % F = 1.0 % G = 2.0 % J = 5.0 % K = 10 %	A = ± 10 ppm/°C B = ± 25 ppm/°C D = ± 50 ppm/°C E = ± 100 ppm/°C	G = Gold S = Solder
				*Coating standard		



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