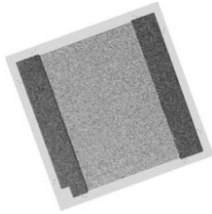


Thin Film 0505 Size Resistor on Alumina



Product may not be to scale

The CC3 series single-value resistor chips offer a relatively small size, low shunt capacitance and solder pad option. The CC3s nichrome resistor material offers excellent stability. The CC3s are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CC3s are 100 % electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

Vishay EFI CC3 chip resistors provide excellent high-frequency response and are ideally suited for prototyping.

Typical application areas are:

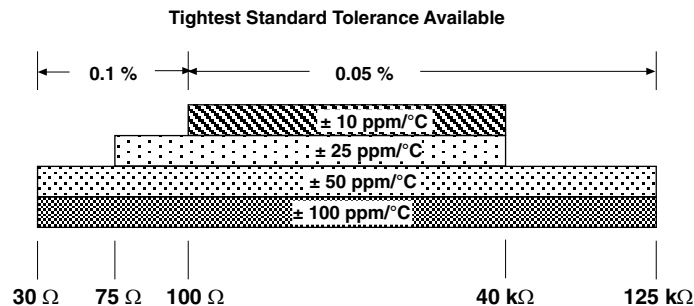
- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

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

FEATURES

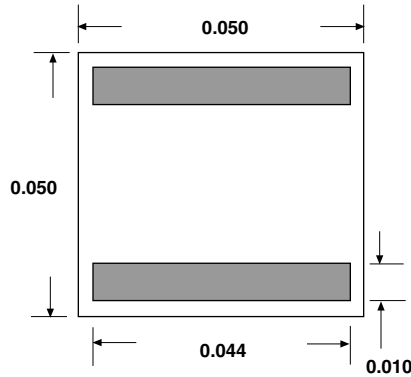
- Wire bondable
- Chip size: 0.050 inches square
- Resistance range: 30 Ω to 125 kΩ
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Resistor material: Nichrome
- Resistor passivation coat optional
- Tolerances to 0.05 %
- Solder pad optional

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, 100 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
DC Power Rating at + 125 °C (Derated to Zero at + 150 °C)	100 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 0.050 ± 0.003 (1.27 x 1.27 ± 0.076 mm)
Chip Thickness	0.010 ± 0.002 (0.25 ± 0.05 mm)
Chip Substrate Material	99.6 % alumina, 2 - 4 microinch finish
Resistor Material	Nichrome
Bonding Pad Size	0.010 x 0.044 (0.254 x 0.117 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, 50 Ω, ± 10 %, ± 50 ppm/°C TCR, gold terminations						
W	CC3	5000	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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