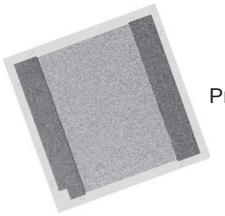
CC3

Vishay Electro-Films

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.

FEATURES

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

APPLICATIONS

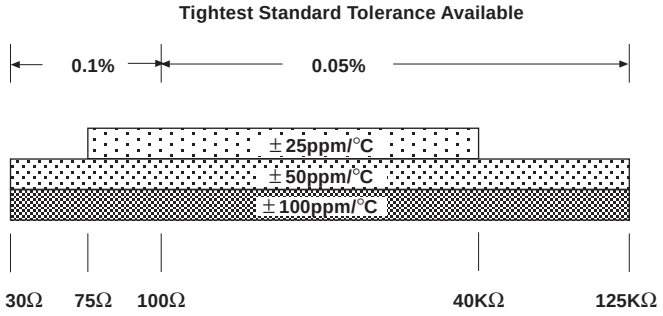
Vishy EFI CC3 chip resistors provide excellent high-frequency response and are ideally suited for prototyping.

Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

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

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308	- 20dB typical
Moisture resistance, MIL-STD-202 Method 106 - Hermetic applications	± 0.2% maximum ΔR/R
Stability, 1000 hours, + 125°C, 100mW	± 0.1% 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, 100 hours	± 0.1% maximum ΔR/R
Dielectric voltage breakdown	400V
Insulation resistance	10^{12} minimum
Operating voltage	100V
DC power rating at + 125°C (derated to zero at + 150°C)	100mW maximum
5 x rated power short-time overload, + 25°C, 5 seconds	± 0.25% maximum ΔR/R

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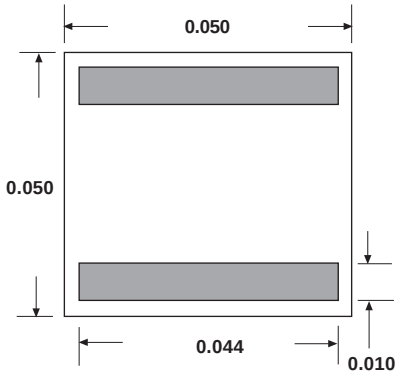
DIMENSIONS in inches



SCHEMATIC

MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip size	0.050 x 0.050 ± 0.003 (1.27 x 1.27 ± 0.076mm)
Chip thickness	0.010 ± 0.002 (0.25 ± 0.05mm)
Chip substrate material	99.6% alumina, 2-4µ microinch finish
Resistor material	Nichrome
Bonding pad size	0.010 x 0.044 (0.254 x 1.117mm) minimum
Number of pads	2
Pad material	25kÅ 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% visualled, 50Ω, ± 10%, ± 50ppm/°C TCR, Gold Terminations, Resistor coated (thermal set plastic)

W	**CC3**	**5000**	**B**	**K**	**D**	**GC**
INSPECTION /PACKAGING	PRODUCT FAMILY	RESISTOR 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 resistor	**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% *Coating standard	**A** = ± 10ppm/°C **B** = ± 25ppm/°C **D** = ± 50ppm/°C **E** = ± 100ppm/°C	**G** = Gold **S** = Solder **GC** = Gold Coated **SC** = Solder Coated