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GREEN

<u>(5-2008)</u>



Thin Film 0402 Size Resistor on Alumina



Product may not be to scale

The CC1- series single-value resistor chips offer a small size, low shunt capacitance and solder pad option. The CC1- nichrome resistors material offers excellent stability. The CC1- resistors are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CC1- resistors are 100 % electrically tested and visually inspected to MIL-STD-883.

FEATURES

- Wire bondable
- Small single chip size: 0.020" x 0.040"
- Case: 0402
- Resistance range: 10 Ω to 24 kΩ
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Resistor material: Nichrome
- Resistor passivation coat optional
- Solder pads optional
- Material categorization:
 For definitions of compliance please see www.vishay.com/doc?99912

Note

* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information/tables in this datasheet for details.

APPLICATIONS

Vishay EFI CC1- chip resistors provide excellent high-frequency response and are ideally suited for prototyping.

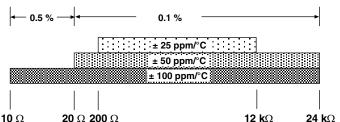
Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

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

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES		
PARAMETER	VALUE	UNIT
Total Resistance Range	10 to 24K	Ω
Standard Tolerances	± 0.05, ± 0.1	%
TCR	± 25, ± 50, ± 100	ppm/°C





Note

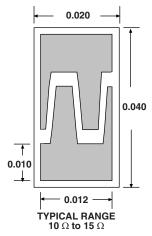
• Only 25 Ω to 1 k Ω are standard strip line designs for microwave applications

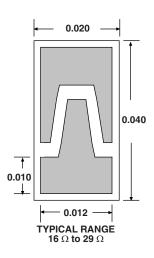
STANDARD ELECTRICAL SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Noise, MIL-STD-202, Method 308	- 20 typ.	dB
Moisture Resistance, MIL-STD-202, Method 106 - Hermetic applications	± 0.2 max. Δ <i>R/R</i>	%
Stability, 1000 h, + 125 °C, 40 mW	± 0.1 max. Δ <i>R/R</i>	%
Operating Temperature Range	- 55 to + 125	°C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.25 max. Δ <i>R/R</i>	%
High Temperature Exposure, + 150 °C, 100 h	\pm 0.1 max. $\Delta R/R$	%
Dielectric Voltage Breakdown	400	V
Insulation Resistance	10 ¹² min.	Ω
Operating Voltage	100 max.	V
DC Power Rating at + 125 °C (Derated to Zero at + 150 °C)	0.040 max.	W
5 x Rated Power Short-Time Overload, + 25 °C, 5 s	± 0.25 max. Δ <i>R/R</i>	%

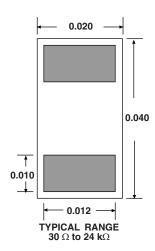
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Vishay Electro-Films

DIMENSIONS in inches



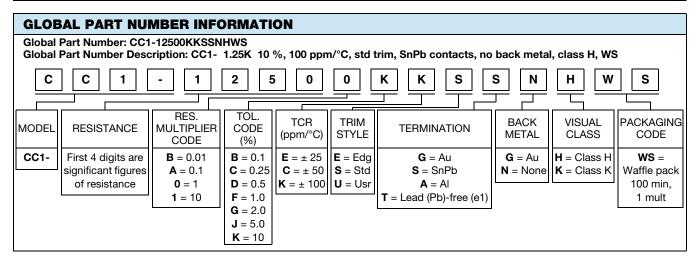




SCHEMATIC



MECHANICAL SPECIFICATIONS		
PARAMETER	VALUE	
Chip Size	0.020" x 0.040" ± 0.003" (0.5 mm x 1.0 mm ± 0.08 mm)	
Chip Thickness	0.010" ± 0.002" (0.254 mm ± 0.03 mm)	
Chip Substrate Material	99.6 % alumina, 2 μ"to 4 μ" finish	
Resistor Material	Nichrome	
Bonding Pad Size	0.010" x 0.012" (0.175 mm x 0.30 mm)	
Number of Pads	2	
Pad Material	25 kÅ minimum gold standard	
Backing	None	





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