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

APPLICATIONS

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

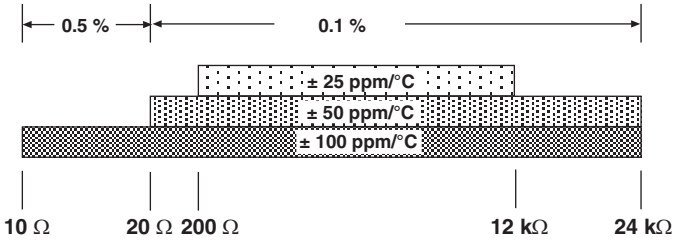
Typical application areas are:

- 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

Tightest Standard Tolerance Available

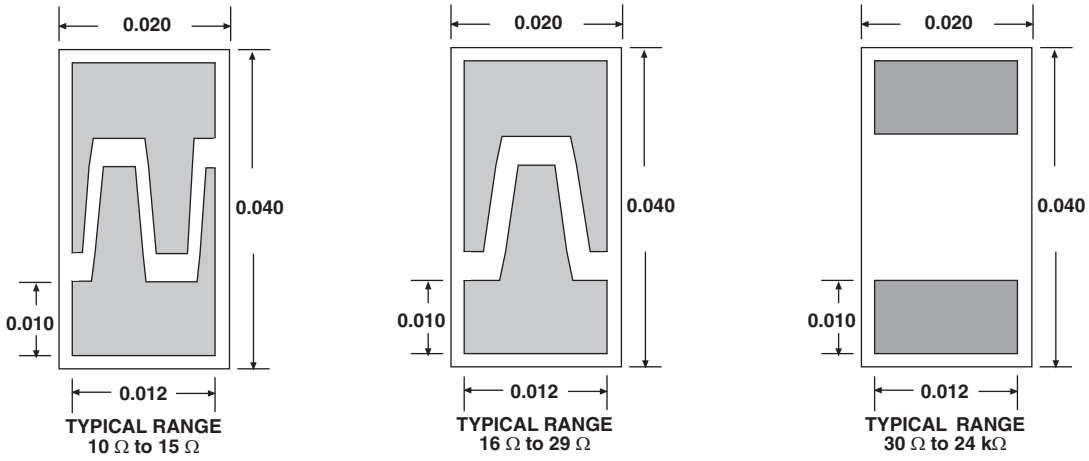


Note

- Only 25 Ω to 1 kΩ 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. $\Delta R/R$	%
Stability, 1000 h, + 125 °C, 40 mW	± 0.1 max. $\Delta R/R$	%
Operating Temperature Range	- 55 to + 125	°C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.25 max. $\Delta R/R$	%
High Temperature Exposure, + 150 °C, 100 h	± 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. $\Delta R/R$	%

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

GLOBAL PART NUMBER INFORMATION

Global Part Number: CC1-12500KKSSNHWS
Global Part Number Description: CC1- 1.25K 10 %, 100 ppm/°C, std trim, SnPb contacts, no back metal, class H, WS

C	C	1	-	1	2	5	0	0	K	K	S	S	N	H	W	S

MODEL	RESISTANCE	RES. MULTIPLIER CODE	TOL. CODE (%)	TCR (ppm/°C)	TRIM STYLE	TERMINATION	BACK METAL	VISUAL CLASS	PACKAGING CODE
CC1-	First 4 digits are significant figures of resistance	**B** = 0.01 **A** = 0.1 **0** = 1 **1** = 10	**B** = 0.1 **C** = 0.25 **D** = 0.5 **F** = 1.0 **G** = 2.0 **J** = 5.0 **K** = 10	**E** = ± 25 **C** = ± 50 **K** = ± 100	**E** = Edg **S** = Std **U** = Usr	**G** = Au **S** = SnPb **A** = Al **T** = Lead (Pb)-free (e1)	**G** = Au **N** = None	**H** = Class H **K** = Class K	**WS** = Waffle pack 100 min, 1 mult

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