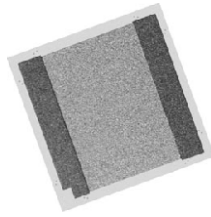


## Thin Film 0505 Size Resistor on Alumina



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 CC3- nichrome resistors material offers excellent stability.

The CC3- resistors are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CC3- resistors are 100 % electrically tested and visually inspected to MIL-STD-883, method 2032 class H or K.

### FEATURES

- Chip size: 0.050 inches square
- Wire bondable
- Case: 0505
- Resistance range: 30  $\Omega$  to 125 k $\Omega$
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Resistor material: Nichrome
- Resistor passivation coat optional
- Tolerances to 0.05 %
- Solder pad optional
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS\***  
Available

**HALOGEN FREE**  
Available

**GREEN**  
(5-2008)  
Available

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

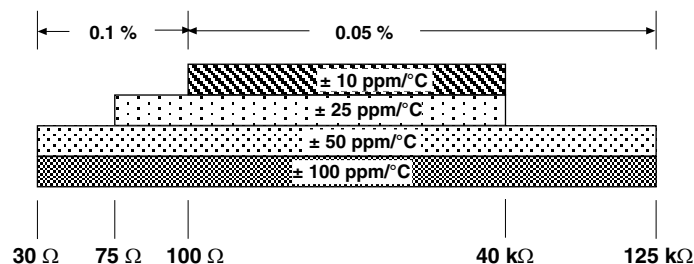
Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

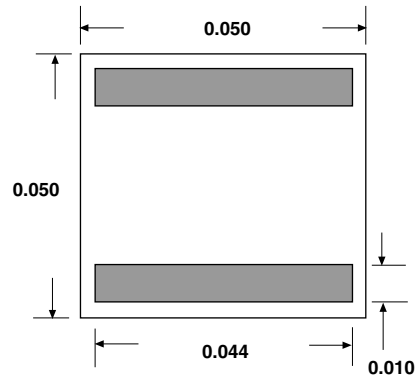
Recommended for hermetic environments where die is not exposed to moisture.

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES		
PARAMETER	VALUE	UNIT
Total Resistance Range	30 to 125K	$\Omega$
Standard Tolerances	$\pm 0.05$ , $\pm 0.1$	%
TCR	$\pm 10$ , $\pm 25$ , $\pm 50$ , $\pm 100$	ppm/ $^{\circ}$ C

Tightest Standard Tolerance Available



STANDARD ELECTRICAL SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Noise, MIL-STD-202, Method 308	-20 typ.	dB
Moisture Resistance, MIL-STD-202, Method 106 - Hermetic Applications	$\pm 0.2$ max. $\Delta R/R$	%
Stability, 1000 h, +125 $^{\circ}$ C, 100 mW	$\pm 0.1$ max. $\Delta R/R$	%
Operating Temperature Range	-55 to +125	$^{\circ}$ C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	$\pm 0.25$ max. $\Delta R/R$	%
High Temperature Exposure, +150 $^{\circ}$ C, 100 h	$\pm 0.1$ max. $\Delta R/R$	%
Dielectric Voltage Breakdown	400	V
Insulation Resistance	$10^{12}$ min.	$\Omega$
Operating Voltage	100	V
DC Power Rating at +125 $^{\circ}$ C (Derated to Zero at +150 $^{\circ}$ C)	0.100 max.	W
5x Rated Power Short-Time Overload, +25 $^{\circ}$ C, 5 s	$\pm 0.25$ max. $\Delta R/R$	%

**DIMENSIONS** in inches

**SCHEMATIC**


MECHANICAL SPECIFICATIONS	
PARAMETER	VALUE
Chip Size	0.050" x 0.050" ± 0.003" (1.27 mm x 1.27 mm ± 0.076 mm)
Chip Thickness	0.010" ± 0.002" (0.25 mm ± 0.05 mm)
Chip Substrate Material	99.6 % alumina, 2 μ" to 4 μ" finish
Resistor Material	Nichrome
Bonding Pad Size	0.010" x 0.044" (0.254 mm x 0.117 mm) minimum
Number of Pads	2
Pad Material	25 kÅ minimum gold standard
Backing	None

GLOBAL PART NUMBER INFORMATION																
Global Part Number: <b>CC3-1250KKSNNHWS</b>																
Global Part Number Description: <b>CC3- 1.25K 10 % 100 ppm/°C Std trim SnPb terminations No back metal Class H WS</b>																
<b>C</b>	<b>C</b>	<b>3</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>K</b>	<b>K</b>	<b>S</b>	<b>S</b>	<b>N</b>	<b>H</b>	<b>W</b>	<b>S</b>
MODEL	RESISTANCE	RESISTANCE MULTIPLIER CODE	TOL. CODE (%)	TCR (ppm/°C)	TRIM STYLE	TERMINATION	BACK METAL	VISUAL CLASS	PACKAGING CODE							
<b>CC3-</b>	First 4 digits are significant figures of resistance	<b>B</b> = 0.01 <b>A</b> = 0.1 <b>0</b> = 1 <b>1</b> = 10 <b>2</b> = 100	<b>A</b> = 0.05 <b>B</b> = 0.1 <b>C</b> = 0.25 <b>D</b> = 0.5 <b>F</b> = 1.0 <b>G</b> = 2.0 <b>J</b> = 5.0 <b>K</b> = 10.0	<b>E</b> = ± 25 <b>C</b> = ± 50 <b>K</b> = ± 100	<b>E</b> = edge <b>S</b> = std <b>U</b> = usr	<b>G</b> = Au <b>S</b> = SnPb <b>A</b> = Al <b>T</b> = lead (Pb)-free (e1)	<b>G</b> = Au <b>N</b> = none	<b>H</b> = class H <b>K</b> = class K	<b>WS</b> = waffle pack 100 min., 1 mult							



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