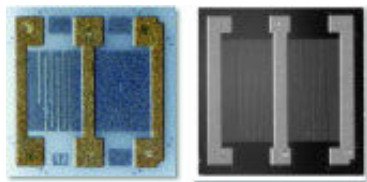


# Thin Film Resistor Divider Network on Alumina, User Trimmable



Product may not be to scale

The CC7 and CCB series resistor chips offer the combination of user trimmability, low shunt capacitance and excellent stability. The CC7 and CCB can be specified as either a single  $R_T$  value resistor, as two resistors with a center tap feature (1:1 ratio or custom) ratio or user trimmable.

The CC7 and CCBs a six bonding pads allows the user increased layout flexibility. The CC7 and CCBs are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. They are 100 % electrically tested and visually inspected to MIL-STD-883, method 2032 class H or class K.

## FEATURES

- Wire bondable
- Small single chip size  
CC7 - 0.030" x 0.030"  
CCB - 0.050" x 0.050"
- Case: 0303, 0505
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Resistance range  $R_T$ :  
100  $\Omega$  to 20 k $\Omega$  for CC7  
100  $\Omega$  to 50 k $\Omega$  for CCB
- Resistor material: Nichrome
- User trimmable
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

## APPLICATIONS

Vishay EFI CC7 and CCB chip resistors provide excellent high frequency response and are ideally suited for prototyping.

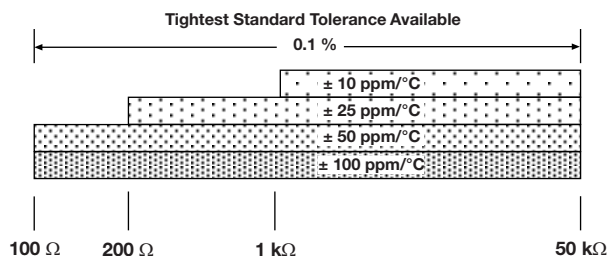
Typical application areas are:

- 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	100 to 50K	$\Omega$
Standard Tolerances	$\pm 0.1$	%
TCR	$\pm 10, \pm 25, \pm 50, \pm 100$	ppm/ $^{\circ}$ C

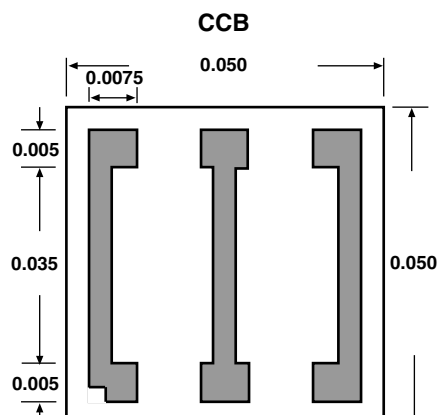
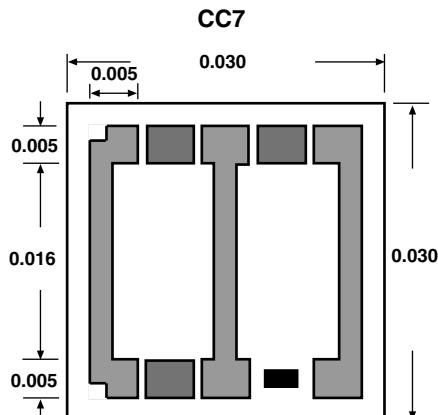
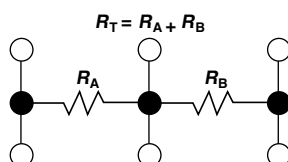


## STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	VALUE	UNIT
Noise, MIL-STD-202, Method 308	- 20 typ.	dB
Stability, 1000 h, + 125 $^{\circ}$ C at Rated Power	+ 0.1 max. $\Delta R/R$	%
Operating Temperature Range	- 55 to + 125	$^{\circ}$ C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	+ 0.25 max. $\Delta R/R$	%
High Temperature Exposure, + 150 $^{\circ}$ C, 100 h	+ 0.25 max. $\Delta R/R$	%
Dielectric Voltage Breakdown	400	V
Insulation Resistance	$10^{12}$ min.	$\Omega$
Operating Voltage	100 max.	V
DC Power Rating at 125 $^{\circ}$ C	0.1 max. (50 mil) 0.05 max. (30 mil)	W
5 x Rated Power Short-Time Overload, + 25 $^{\circ}$ C, 5 s	+ 0.25 max. $\Delta R/R$	%

### Note

- Performance characteristics are not guaranteed once user trimmed

**DIMENSIONS** in inches

**SCHEMATIC**

**MECHANICAL SPECIFICATIONS**

PARAMETER	VALUE
Chip Size	0.030" x 0.030" ± 0.003" (0.76 mm x 0.76 mm ± 0.08 mm) 0.050" x 0.050" ± 0.003" (1.27 mm x 1.27 mm ± 0.08 mm)
Chip Thickness	0.010" ± 0.002" (0.25 mm ± 0.03 mm)
Chip Substrate Material	99.6 % alumina, 2 microinch to 4 microinch finish
Resistor Material	Nichrome
Bonding Pad Size	0.005" x 0.005" (0.12 mm x 0.12 mm) min.
Number of Pads	6
Pad Material	25 kÅ minimum gold standard
Backing	None

**GLOBAL PART NUMBER INFORMATION**

Global Part Number: CC750000KCKKGNHWS

Global Part Number Description: CC7 5K 10 % RT 0.25 % 100 ppm/°C 10 ppm/°C Au None H WS

MODEL	RESISTANCE (R TOTAL)	RESISTANCE MULTIPLIER CODE	TOL. CODE (%)	RATIO TOL. (%)	TCR (ppm/°C)	TC TRACK (ppm/°C)	TERMINATION	BACK METAL	VISUAL CLASS	PACKAGING CODE
CC7 = 30 x 30 size CCB = 50 x 50 size	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	B = 0.1 C = 0.25 D = 0.5 F = 1.0 G = 2.0 U = User N = No	E = ± 25 C = ± 50 K = ± 100 M = ± 250	G = ± 2 J = ± 5 K = ± 10 N = No	G = Au A = Al	G = Au N = None	H = Class H K = Class K	WS = Waffle pack 100 min., 1 mult



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