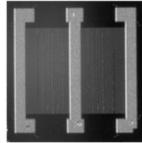
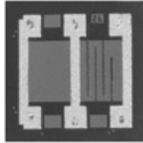


Thin Film Resistors on Alumina, User Trimmable



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.

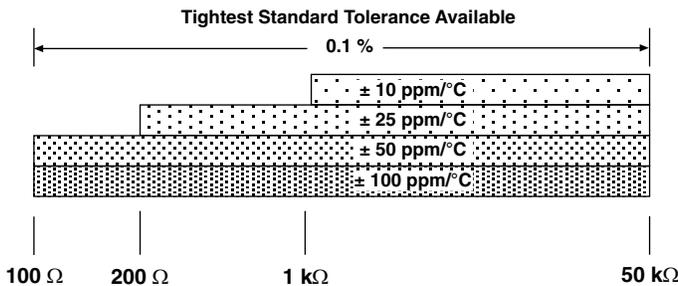
APPLICATIONS

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



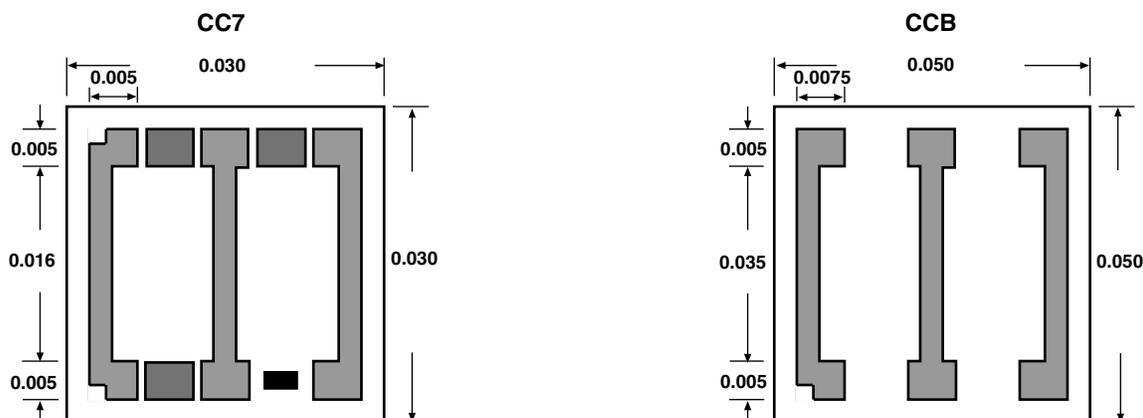
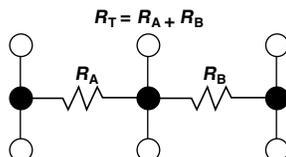
| PROCESS CODE | | | |
|--------------|----------|----------|----------|
| CC7 | | CCB | |
| CLASS H* | CLASS K* | CLASS H* | CLASS K* |
| 219 | 223 | 219 | 223 |
| 220 | 224 | 220 | 224 |
| 221 | 225 | 221 | 225 |
| 222 | 226 | 222 | 226 |

*MIL-PRF-38534 inspection criteria
 R_A user trimmable 50 % above
 R_T value specified in P/N

STANDARD ELECTRICAL SPECIFICATIONS

| PARAMETER | |
|--|---|
| Noise, MIL-STD-202, Method 308 | - 20 dB typ. |
| Stability, 1000 h, + 125 °C at Rated Power | + 0.1 % max. $\Delta R/R$ |
| Operating Temperature Range | - 55 °C 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 | + 0.25 % max. $\Delta R/R$ |
| Dielectric Voltage Breakdown | 400 V |
| Insulation Resistance | 10^{12} min. |
| Operating Voltage | 100 V max. |
| DC Power Rating at 125 °C | 50 mW max. (30 mil) 100 mW max. (50 mil) |
| 5 x Rated Power Short-Time Overload, + 25 °C, 5 s | + 0.25 % max. $\Delta R/R$ |

Note: Performance characteristics are not guaranteed once user trimmed

DIMENSIONS in inches

SCHEMATIC


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

Options: Gold back for solder die attach
 Consult Application Engineer

ORDERING INFORMATION

Example: 100 % visualled, $R_T = 500, \pm 10\%, \pm 50 \text{ ppm}/^\circ\text{C}$ TCR, gold pads, class H vixual inspection, 30 mil size, R_A user trim.
 Standard user trim versions will be supplied with R_A untrimmed
 For custom R_A, R_B combinations consult Application Engineer

| W INSPECTION/ PACKAGING | CC7 PRODUCT FAMILY | 221 PROCESS CODE | 5000 RESISTANCE VALUE | A MULTIPLIER CODE | K TOLERANCE CODE |
|---|--------------------------|------------------------|---|--|--|
| W = 100 % visually inspected parts | CC7 | See Process Code table | Use first 4 digits significant digits of the resistance (R_T) | B = 0.01 A = 0.1 0 = 1 1 = 10 | B = 0.1 % D = 0.5 % F = 1.0 % G = 2.0 % H = 2.5 % J = 5.0 % K = 10 % |
| X = Sample, visually inspected parts loaded in matrix trays (4 % AQL) | CCB | | | | |



Disclaimer

All product specifications and data are subject to change without notice.

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