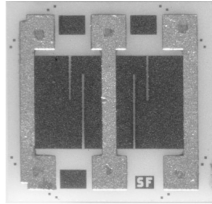


Vishay Electro-Films
Thin Film, 1010 Size Center-Tapped Resistors on Alumina

CHIP RESISTORS



Product may not be to scale

The CCC series resistor chips offer good 400mw power, low shunt capacitance and a center tap feature. The CCCs nichrome resistor material offers excellent stability. The CCCs are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The CCCs are 100% electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

Vishay EFI CCC chip resistors provide excellent high-frequency response and are ideally suited for prototyping. Typical application areas are:

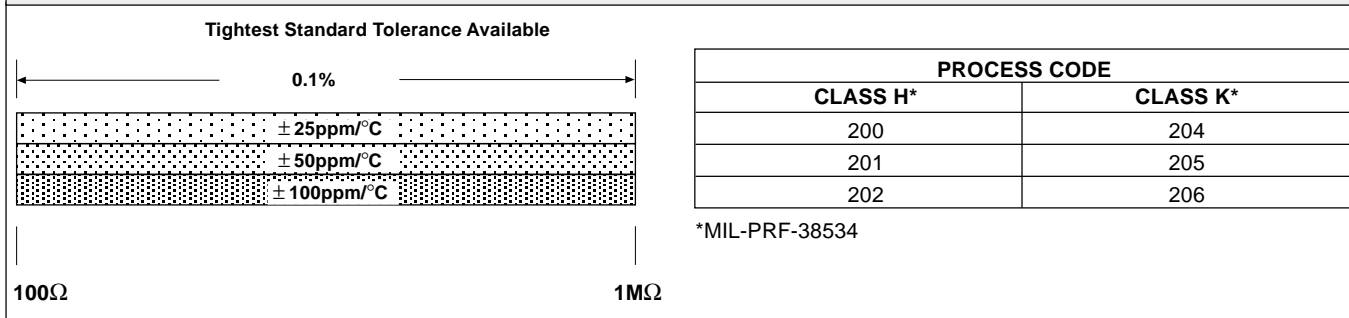
- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

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

FEATURES

- Larger single size for extended value range
- Resistance range total: 100Ω to 1 MΩ
Custom values: R_A or R_B - 50Ω to 500kΩ
- Power: 400mW
- Alumina substrate
- Low stray capacitance: < 0.2pF
- Resistor material: nichrome

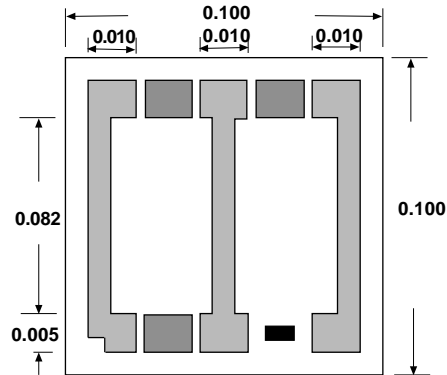
TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



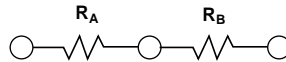
STANDARD ELECTRICAL SPECIFICATIONS

| PARAMETER | |
|--|--------------------------|
| Noise, MIL-STD-202, Method 308 | - 20dB typical |
| Center tap ratio Ra/Rb - Tolerance | 1 ± 1% |
| Stability, 1000 hours, + 125°C, 400mW | ± 0.1% maximum ΔR/R |
| Operating temperature range | - 55°C to + 125°C |
| Thermal shock, MIL-STD-202, Method 107, Test condition F | ± 0.25% maximum ΔR/R |
| High temperature exposure, + 150°C, 100 hours | ± 0.25% maximum ΔR/R |
| Dielectric voltage breakdown | 400V |
| Insulation resistance | 10 ¹² minimum |
| Operating voltage | 200V maximum |
| DC power rating @ 125°C | 400mW maximum |
| 5 x rated power short-time overload, + 25°C, 5 seconds | ± 0.25% maximum ΔR/R |

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DIMENSIONS in inches

SCHEMATIC

$$R_T = R_A + R_B$$



| MECHANICAL SPECIFICATIONS in inches | |
|--|--|
| PARAMETER | |
| Chip size | 0.100 x 0.100 ± 0.003 (2.5 x 2.5 ± 0.08mm) |
| Chip thickness | 0.010 ± 0.002 (0.25 ± 0.03mm) |
| Chip substrate material | 99.6% alumina, 2 - 4 microinch finish |
| Resistor material | Nichrome |
| Bonding pad size | 0.005 x 0.010 (0.12 x 0.24mm) minimum |
| Number of pads | 6 |
| Pad material | 25kÅ minimum gold standard |
| Backing | None |

OPTIONS: Gold back for solder die attach
Consult Applications Engineer

| ORDERING INFORMATION | | | | | | |
|---|--|----------------|------------------------|--|--|--|
| Example: 100% visualled, $R_T = 500\Omega, \pm 10\%, \pm 50\text{ppm}/^\circ\text{C}$ TCR, $R_A = R_B = R_T/2$, Gold Pads, Class H For tighter ratio tolerance, R_A, R_B or user trim consult factory for P/N | | | | | | |
| P/N: | W | CCC | 201 | 5000 | A | K |
| | INSPECTION /PACKAGING | PRODUCT FAMILY | PROCESS CODE | RESISTANCE VALUE | MULTIPLIER CODE | TOLERANCE CODE |
| | W = 100% visually inspected parts X = Sample, visually inspected loaded in matrix trays (4% AQL), | | See Process Code table | Use first 4 significant digits of resistance (R_T) | 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% H = 2.5% J = 5.0% K = 10% |