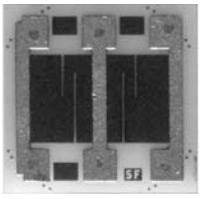
# Thin Film, 1010 Center-Tapped Resistor Divider Network on Alumina



Product may not be to scale

The CCC series resistor chips offer good 400 mW 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, method 2032 class H or K.

## FEATURES

- Wire bondable
- Larger single size for extended value range
- Resistance range total: 100 Ω to 1 MΩ
  Custom values: $R_A$ or $R_B$ - 50 Ω to 500 kΩ
- Chip size: 0.100" x 0.100"
- Case: 1010
- Power: 400 mW
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Resistor material: Nichrome
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

GREEN (5-2008)

## APPLICATIONS

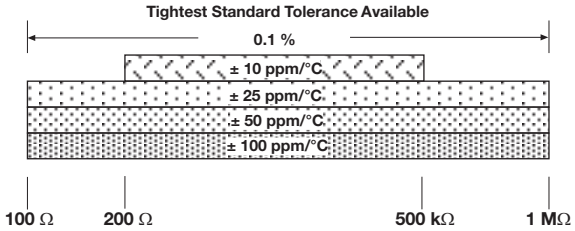
Vishay EFI CCC chip resistors provide excellent high-frequency response and are ideally suited for prototyping.

Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

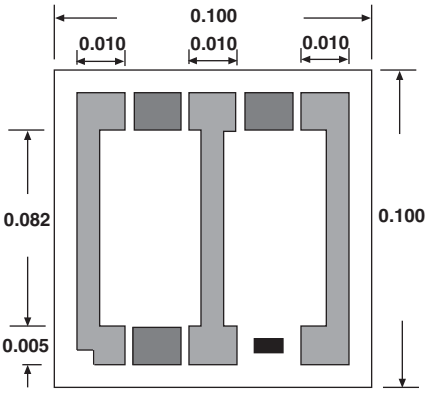
Recommended for hermetic environments where die is not exposed to moisture

| TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| Total Resistance Range | 100 to 1M | Ω |
| Standard Tolerances | ± 0.1 | % |
| TCR | ± 10, ± 25, ± 50, ± 100 | ppm/°C |

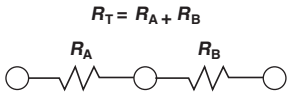



| STANDARD ELECTRICAL SPECIFICATIONS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| Noise, MIL-STD-202, Method 308 | - 20 typ. | dB |
| Center Tap Ratio, $R_A/R_B$: Tolerance | 1 ± 1 | % |
| Stability, 1000 h, + 125 °C, 400 mW | ± 0.1 max. $\Delta R/R$ | % |
| Operating Temperature Range | - 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 | ± 0.25 max. $\Delta R/R$ | % |
| Dielectric Voltage Breakdown | 400 | V |
| Insulation Resistance | $10^{12}$ min. | Ω |
| Operating Voltage | 200 max. | V |
| DC Power Rating at 125 °C | 0.4 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 | 0.100" x 0.100" ± 0.003" (2.5 mm x 2.5 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 0.010" (0.12 mm x 0.24 mm) min. |
| Number of Pads | 6 |
| Pad Material | 25 kÅ minimum gold standard |
| Backing | None (Au optional) |

## GLOBAL PART NUMBER INFORMATION

**Global Part Number: CCC50000KCKKGNHWS**

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

| C | C | C | 5 | 0 | 0 | 0 | 0 | K | C | K | K | G | N | H | W | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| MODEL | RESISTANCE (*R* TOTAL) | RESISTANCE MULTIPLIER CODE | TOL. CODE (%) | RATIO TOL. (%) | TCR (ppm/°C) | TCR TRACK (ppm/°C) | TERMINATION | BACK METAL | VISUAL CLASS | PACKAGING CODE |
|---|---|---|---|---|---|---|---|---|---|---|
| **CCC** | First 4 digits are significant figures of resistance | **A** = 0.1<br>**0** = 1<br>**1** = 10<br>**2** = 100<br>**3** = 1000 | **B** = 0.1<br>**C** = 0.25<br>**D** = 0.5<br>**F** = 1.0<br>**G** = 2.0<br>**J** = 5.0<br>**K** = 10.0 | **B** = 0.1<br>**C** = 0.25<br>**D** = 0.5<br>**F** = 1.0<br>**G** = 2.0<br>**U** = User<br>**N** = No | **E** = ± 25<br>**C** = ± 50<br>**K** = ± 100 | **G** = ± 2<br>**J** = ± 5<br>**K** = ± 10<br>**N** = No | **G** = Au | **G** = Au<br>**N** = None | **H** = Class H<br>**K** = Class K | **WS** = Waffle pack 100 min., 1 mult |

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