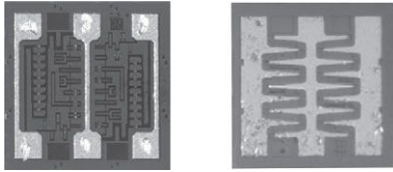


Thin Film Low Ohmic Value Resistor Divider Network



Product may not be to scale

LINKS TO ADDITIONAL RESOURCES



The CTR low ohm series provides a center tap option down to 1 Ω for non-critical tolerance applications.

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

FEATURES

- Wire bondable
- Resistance range total: 1 Ω to 9.9 Ω
- Center tap
- Chip size: 0.030" x 0.030"
- Case: 0303
- Oxidized silicon substrate for good power dissipation
- Resistor material: tantalum nitride, self passivating
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

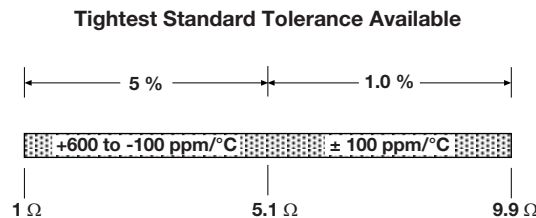


APPLICATIONS

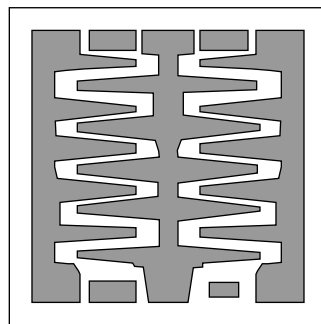
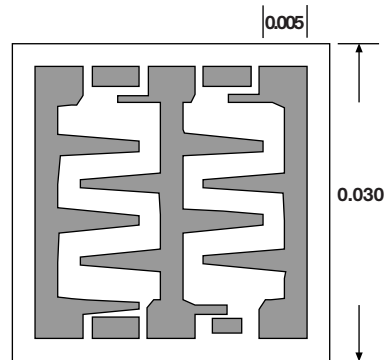
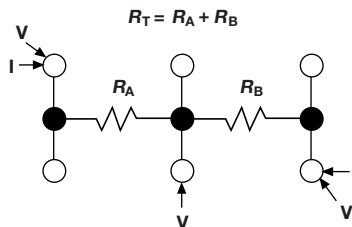
For low values, the resistance of the six bonding pad configurations can vary, depending on the method of measurement used. Vishay EFI measures low value resistors by the four-wire kelvin technique using the method illustrated in the measurement schematic for resistors of less than 10.

Consult Vishay EFI Applications Engineering for alternate measurement method if tighter requirements are needed.

| TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES | | |
|---|--------------|--------|
| PARAMETER | VALUE | UNIT |
| Total Resistance Range | 1 to 9.9 | Ω |
| Standard Tolerances | ± 1, ± 5 | % |
| TCR | ± 100, + 600 | ppm/°C |



| STANDARD ELECTRICAL SPECIFICATIONS | | |
|--|---------------------------------|--------|
| PARAMETER | VALUE | UNIT |
| TCR Tracking Between Halves (R_A/R_B) | ± 200 typ. | ppm/°C |
| Voltage Ratio, R_A/R_B : Tolerance | 1 ± 5 | % |
| Noise, MIL-STD-202, Method 308 | - 20 typ. | dB |
| Stability, 1000 h, + 125 °C, 125 mW | ± 0.25 ± 0.01 max. $\Delta R/R$ | % |
| Operating Temperature Range | - 55 to + 125 | °C |
| Thermal Shock, MIL-STD-202, Method 107, Test Condition F | ± 0.1 max. $\Delta R/R$ | % |
| High Temperature Exposure, + 150 °C, 100 h | ± 0.2 + 0.01 max. $\Delta R/R$ | % |
| DC Power Rating at 70 °C (derated to zero at + 175 °C) | 0.25 | W |
| 5 x Rated Power Short-Time Overload, + 25 °C, 5 s | ± 0.1 max. $\Delta R/R$ | % |

DIMENSIONS in inches

TYPICAL RANGE
 1Ω to 6.7Ω

TYPICAL RANGE
 6.8Ω to 9.9Ω
SCHEMATIC


| MECHANICAL SPECIFICATIONS | |
|---------------------------|---|
| PARAMETER | VALUE |
| Chip Size | 0.030" x 0.030" ± 0.002" (0.762 mm x 0.762 mm ± 0.050 mm) |
| Chip Thickness | 0.010" ± 0.002" (0.254 mm ± 0.05 mm) |
| Chip Substrate Material | Oxidized silicon, 10 kÅ minimum SiO ₂ |
| Resistor Material | Tantalum nitride, self-passivating |
| Bonding Pad Size | 0.005" x 0.005" (0.127 mm x 0.127 mm) min. |
| Number of Pads | 6 |
| Pad Material | 10 kÅ minimum Al (Au optional) |
| Backing | None, lapped semiconductor silicon |

| GLOBAL PART NUMBER INFORMATION | | | | | | | | | | | | | | | | |
|--|--|-------------------------------------|--|---|--|--------------------|--------------------------------|----------------------------------|--|---|----------|----------|----------|----------|----------|----------|
| Global Part Number: CTR5000CKNZNAHWS | | | | | | | | | | | | | | | | |
| Global Part Number Description: CTR 5K 10% No ratio +600 / -100 ppm/°C None Al No back metal H WS | | | | | | | | | | | | | | | | |
| C | T | R | 5 | 0 | 0 | 0 | C | K | N | Z | N | A | 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 | | | | | | |
| CTR | First 4 digits are significant figures of resistance | C = 0.001 B = 0.01 | F = 1.0 G = 2.0 J = 5.0 K = 10.0 M = 20.0 | F = 1.0 G = 2.0 J = 5.0 N = no | K = ± 100 M = ± 250 T = +300/ -100 Z = +600/ -100 | 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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