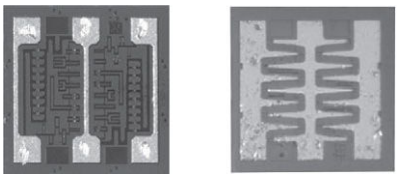
Thin Film Low Ohmic Value Resistor Divider Network



Product may not be to scale

LINKS TO ADDITIONAL RESOURCES

3D Models

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

Pb-free
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

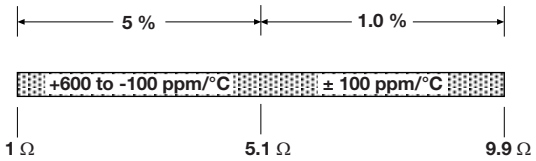
APPLICATIONS

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

Tightest Standard Tolerance Available



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. $\Delta R/R$	%

For technical questions, contact: efi@vishay.com
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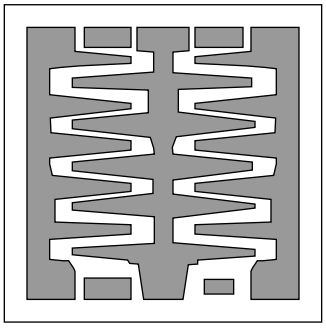
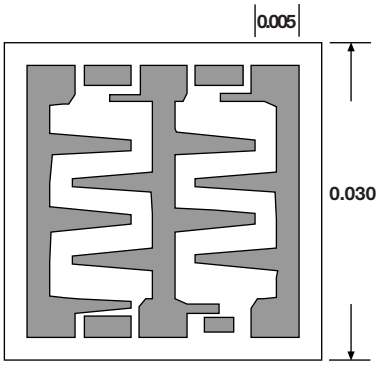
DIMENSIONS in inches

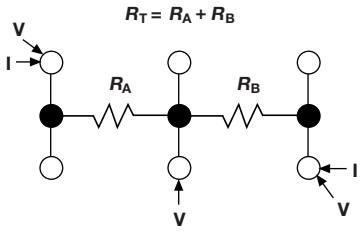


TYPICAL RANGE
1 Ω to 6.7 Ω



TYPICAL RANGE
6.8 Ω to 9.9 Ω

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: CTR5000CKNZNANHWS

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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