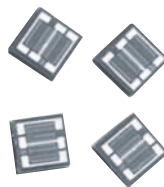




# Wirebondable Dual Value Thin Film Chip Resistor Networks, Center Tap (High Ohmic Value)



Actual Size

## DESIGN SUPPORT TOOLS

click logo to get started

**3D**  
Models  
Available

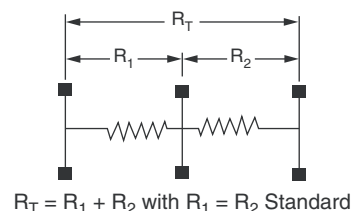
Chromium silicon thin film is very well suited to produce high density and high ohmic value resistor chips. Performances and sizes are greatly improved compared to Thick Film counterparts. The center tap configuration offers a greater flexibility for hybrid layout design.

## FEATURES

- Center tap feature
- Small size 30 mil x 30 mil
- Very high ohmic values (up to 10 M $\Omega$ )
- Aluminum or gold terminations
- Wirebondable
- Good stability 0.1 % (2000 h, rated power, at +70 °C)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

## SCHEMATIC



## STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE <sup>(1)</sup> $\Omega$	POWER RATING $P_{70^\circ\text{C}}$ W	ABSOLUTE TOLERANCE $\pm$ %	RATIO TOLERANCE $\pm$ %	ABSOLUTE TCR <sup>(2)</sup> $\pm$ ppm/°C	RATIO TCR $\pm$ ppm/°C
CS 33	0303	10K to 10M	0.125	0.5, 1, 2	0.5	50, 100	5

### Notes

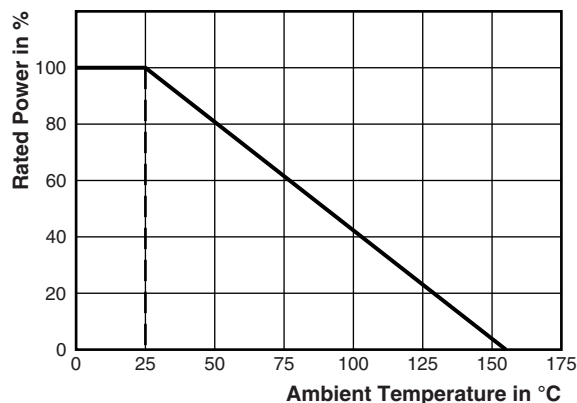
<sup>(1)</sup> ( $R_T = R_1 + R_2$ )

<sup>(2)</sup>  $\pm 100$  ppm/°C,  $\pm 50$  ppm/°C on request at -55 °C to +155 °C

## PERFORMANCES

TEST	SPECIFICATIONS	CONDITIONS
Ohmic value: Ratio	1/1 standard (unequal values: please consult)	
Stability	$\pm 0.1$ % typical, $\pm 0.2$ maximum	2000 h at +70 °C under $P_n$
Voltage coefficient	0.1 ppm/V	
Limiting voltage	100 V <sub>DC</sub> on $R_T$	
Noise	< -20 dB typical	MIL-STD-202 method 308
Thermal EMF	< 0.01 $\mu$ V/°C	
Shelf life stability	200 ppm	1 year at +25 °C

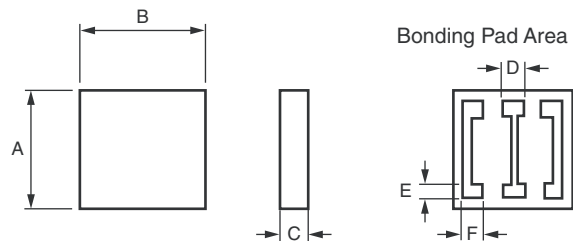
## DERATING



## CLIMATIC SPECIFICATIONS

Operating temperature range	-55 °C to +155 °C
Storage temperature range	-55 °C to +155 °C

## DIMENSIONS



DIMENSION	INCHES	MILLIMETERS
A	0.033 ± 0.004	0.855 ± 0.10
B	0.033 ± 0.004	0.855 ± 0.10
C	0.01 to 0.015	0.25 to 0.40
D	0.006	0.15
E	0.004	0.10
F	0.006	0.15

## MECHANICAL SPECIFICATIONS

Resistive element	Chromium silicon
Passivation	Silicone nitride
Substrate material	Silicon (consult vishay for Al <sub>2</sub> O <sub>3</sub> )
Bonding pads	Aluminum or gold

## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CS33-100KF1MD0099

C	S	3	3	-	1	0	0	K	F	1	M	D		0	0	9	9
GLOBAL MODEL				R <sub>1</sub> VALUE		ABS. TOLERANCE			R <sub>2</sub> VALUE		RAT. TOLERANCE		TERMINATIONS			OPTION	
				Decimal R, K, or M		D = ± 0.5 % F = ± 1.0 % G = ± 2.0 %			Decimal R, K, or M		D = ± 0.5 %		Blank = aluminum G = gold			Leave blank if no option	



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