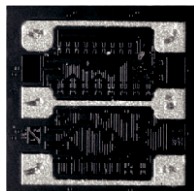


## Custom Thin Film Dual Resistor Divider Network



Product may not be to scale

The STR, DTR series of dual resistor dividers provides the user with the option to specify the value, tolerance of each individual resistor and ratio tolerance.

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

### FEATURES

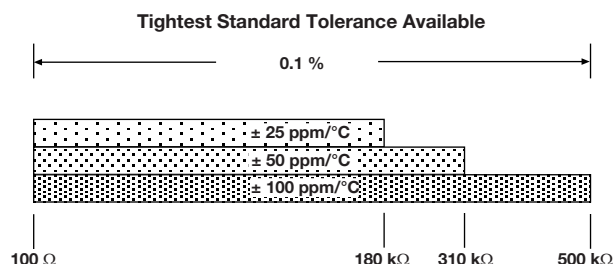
- Wire bondable
- Individual value and tolerance selection
- Ratio tolerance to 0.05 %
- Chip size: 0.030" x 0.030"
- Case: 0303
- Resistance range: 100  $\Omega$  to 500 k $\Omega$
- Oxidized silicon substrate for good power dissipation
- Resistor material: Tantalum nitride, self-passivating

### APPLICATIONS

Vishay EFI custom-made two resistor chips are designed for hybrid packages requiring close ratio-matching and tracking of two different resistors for gain accuracy and stability. The customized resistance values give the hybrid designer greater flexibility.

### TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES

PARAMETER	VALUE	UNIT
Total Resistance Range	100 to 500K	$\Omega$
Standard Tolerances	$\pm 0.1$	%
TCR	$\pm 25, \pm 50, \pm 100$	ppm/ $^{\circ}$ C



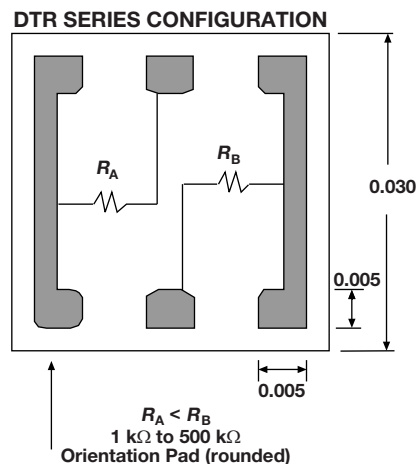
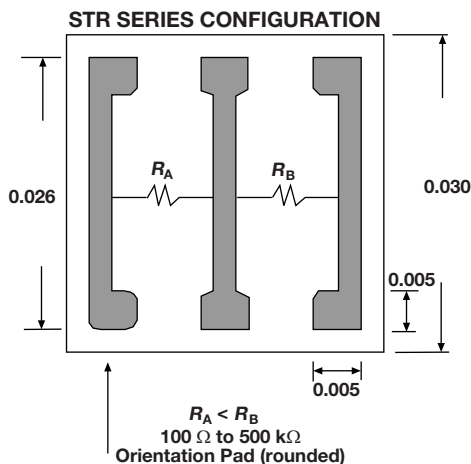
Resistance range refers only to  $R_A$  or  $R_B$   
Extended value/TCR range available using nichrome version

### STANDARD ELECTRICAL SPECIFICATIONS

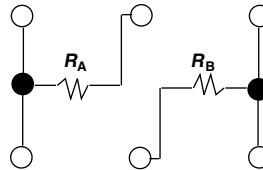
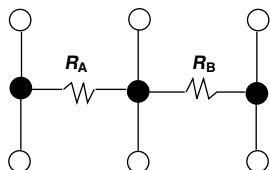
PARAMETER	VALUE	UNIT
TCR Tracking Between Halves ( $R_A/R_B$ )	$\pm 10$ ( $R_A < 1K$ ) $\pm 5$ ( $R_A \geq 1K$ )	ppm/ $^{\circ}$ C
Resistance Ratio Tolerance $R_A/R_B$	Customer specified to 0.05	%
Noise, MIL-STD-202, Method 308 100 $\Omega$ to 250 k $\Omega$ < 100 $\Omega$ or > 251 k $\Omega$	- 35 typ. - 20 typ.	dB
Moisture Resistance, MIL-STD-202, Method 106	$\pm 0.5$ max. $\Delta R/R$	%
Stability, 1000 h, + 125 $^{\circ}$ C	$\pm 0.2$ max. absolute	%
Derated Power	$\pm 0.02$ max. ratio	%
Operating Temperature Range	- 55 to + 125	$^{\circ}$ C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	$\pm 0.1$ max. $\Delta R/R$	%
High Temperature Exposure, + 150 $^{\circ}$ C, 100 h	$\pm 0.2$ max. $\Delta R/R$	%
Dielectric Voltage Breakdown	200	V
Insulation Resistance	$10^{12}$ min.	$\Omega$
Operating Voltage	100	V
DC Power Rating at 70 $^{\circ}$ C (derated to zero at + 175 $^{\circ}$ C)	0.125 each resistor	W
5 x Rated Power Short-Time Overload, + 25 $^{\circ}$ C, 5 s	$\pm 0.1$ max. $\Delta R/R$	%



## DIMENSIONS in inches



## SCHEMATIC



## MECHANICAL SPECIFICATIONS

PARAMETER	VALUE
Chip Size	0.030" x 0.030" $\pm$ 0.003" (0.762 mm x 0.762 mm $\pm$ 0.05 mm)
Chip Thickness	0.010" $\pm$ 0.002" (0.254 mm $\pm$ 0.05 mm)
Chip Substrate Material	Oxidized silicon, 10 kÅ minimum SiO <sub>2</sub>
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 aluminum (Au optional)
Backing	None, lapped semiconductor silicon (Au optional)

## GLOBAL PART NUMBER INFORMATION

Global Part Number: STR10031003KCKKSW S

Global Part Number Description: STR 100K/100K 10 % RT 0.25 % 100 ppm/°C 10 ppm/°C Std WS

S	T	R	1	0	0	3	1	0	0	3	K	C	K	K	S	W	S
MODEL	RES. 1 VALUE	RES. 1 MULTIPLIER CODE	RES. 2 VALUE	RES. 2 MULTIPLIER CODE	TOL. CODE (%)	RATIO TOL. (%)	TCR (ppm/°C)	TC TRACK (ppm/°C)	SPECIAL	PACKAGING CODE							
STR (Divider) DTR (Isolated)	First 3 digits are significant figures of resistance	B = 0.01 A = 0.1 0 = 1 1 = 10 2 = 100 3 = 1000	First 3 digits are significant figures of resistance	B = 0.01 A = 0.1 0 = 1 1 = 10 2 = 100 3 = 1000	B = 0.1 C = 0.25 D = 0.5 F = 1.0 G = 2.0 J = 5.0 K = 10	B = 0.1 C = 0.25 D = 0.5 F = 1.0 G = 2.0 N = No	E = ± 25 C = ± 50 K = ± 100 M = ± 250 S = 0/- 100 Z = + 600/- 100	G = ± 2 J = ± 5 K = ± 10 N = No	S = Std	WS = Waffle pack 100 min., 1 mult							



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