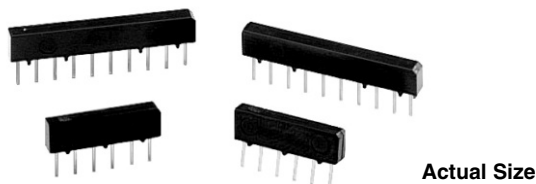


## Molded, Commercial, Single In-Line Resistor Network (Standard)



Actual Size

Designed To Meet MIL-PRF-83401 Characteristic "V" and "H"

These resistor networks are available in 6, 8 and 10 pin styles in both standard and custom circuits. They incorporate VISHAY Thin Film's patented Passivated Nichrome film to give superior performance on temperature coefficient of resistance, thermal stability, noise, voltage coefficient, power handling and resistance stability. The leads are attached to the metallized alumina substrates by Thermo-Compression bonding. The body is molded thermoset plastic with gold plated copper alloy leads. This product will outperform all of the requirements of characteristic "V" and "H" of MIL-PRF-83401.

### FEATURES

- Lead (Pb)-free available
- Rugged molded case 6, 8, 10 pins
- Thin Film element
- Excellent TCR characteristics ( $\pm 25$  ppm/ $^{\circ}$ C)
- Gold to gold terminations (no internal solder)
- Exceptional stability over time and temperature (500 ppm at + 70  $^{\circ}$ C at 2000 h)
- Internally passivated elements
- Compatible with automatic insertion equipment
- Standard circuit designs
- Isolated/Bussed circuits



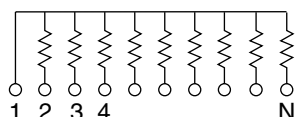
**RoHS\***  
COMPLIANT

### TYPICAL PERFORMANCE

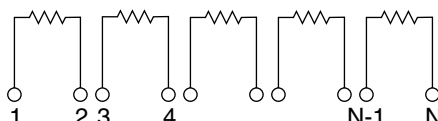
	ABS	TRACKING
TCR	25	2
	ABS	RATIO
TOL	0.1	0.05

### SCHEMATIC

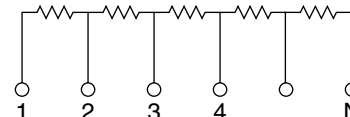
Schematic 01



Schematic 03



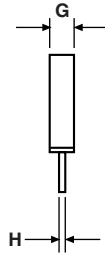
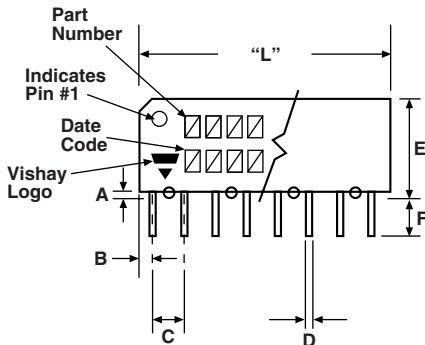
Schematic 06



### STANDARD ELECTRICAL SPECIFICATIONS

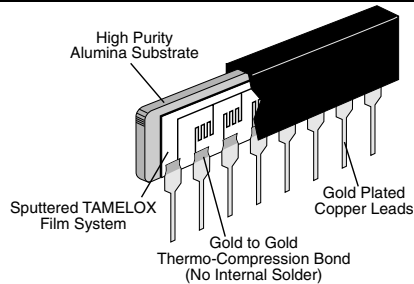
TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	
Resistance Range	100 $\Omega$ to 200 k $\Omega$	
TCR:	Tracking	$\pm 2$ ppm/ $^{\circ}$ C (typical less 1 ppm/ $^{\circ}$ C equal values)
	Absolute	$\pm 25$ ppm/ $^{\circ}$ C standard
Tolerance:	Ratio	$\pm 0.05$ % to $\pm 0.1$ % to R1
	Absolute	$\pm 0.1$ % to $\pm 1.0$ %
Power Rating:	Resistor	100 mW per element typical at + 25 $^{\circ}$ C
	Package	0.5 W
Stability:	$\Delta R$ Absolute	500 ppm
	$\Delta R$ Ratio	150 ppm
Voltage Coefficient	< 0.1 ppm/V	
Working Voltage	100 V	
Operating Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	
Storage Temperature Range	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	
Noise	< - 30 dB	
Thermal EMF	< 0.08 $\mu$ V/ $^{\circ}$ C	
Shelf Life Stability:	Absolute	< 100 ppm
	Ratio	20 ppm

\* Pb containing terminations are not RoHS compliant, exemptions may apply

**DIMENSIONS AND IMPRINTING** in inches and millimeters

"L" DIMENSION	INCHES	MM
A	0.035	0.89
B	0.040	1.02
C	0.100 ± 0.005 non-accum.	2.54 ± 0.13
D	0.019 ± 0.006 typical	0.48 ± 0.15
E	0.187 ± 0.010	4.75 ± 0.25
F	0.135	3.43
G	0.095	2.41
H	0.012 ± 0.004	0.31 ± 0.10

NUMBER OF PINS	6	8	10
"L" Dimensions	0.583 ± 0.015	0.783 ± 0.015	0.983 ± 0.015
(mm)	(14.81 ± 0.38)	(19.89 ± 0.38)	(24.97 ± 0.38)

**CONSTRUCTION****MECHANICAL SPECIFICATIONS**

Resistive Element	Passivated nichrome
Substrate Material	Alumina
Body Molded Epoxy	Terminals vopper alloy
Plating	Nickel/gold
Marking Resistance to Solvents	Per MIL-PRF-83401
Lead (Pb)-free Option	96.5 % Sn, 3.0 % Ag, 0.5 % Cu
Lead (Pb)-free Finish	Hot solder dip

**GLOBAL PART NUMBER INFORMATION**

New Global Part Numbering: TSP6011002BUF (preferred part number format)

T	S	P	6	0	1		1	0	0	2	B	U	F		
T	S	P	S	1	0	0	1		1	0	0	2	C	U	F
GLOBAL MODEL (3 or 4 digits)		PIN COUNT (1 or 2 digits)		SCHEMATICS		TCR CHARACTERISTICS		RESISTANCE		TOLERANCE AND RATIO TOLERANCE			PACKAGING		
TSP (Tin lead)		6		01 = 5, 7 or 9 resistors with Pin 1 common		*R = ± 25 ppm/°C		First 3 digits are significant figures and the last digit specifies the number of zeroes to follow.		Absolute *A = 0.1 % B = 0.1 % C = 0.25 % D = 0.5 % F = 1.0 % *Z = 0.1 %			Ratio 0.05 % 0.1 % 0.1 % 0.1 % 0.5 % 0.025 %		
TSPS (Lead (Pb)-free) (e1)		8		03 = 3, 4 or 5 isolated resistors		H = ± 50 ppm/°C		e.g: 1001 = 1K 1002 = 10K					UF = Tubed		
		10		06 = 5, 7 or 9 series connected		K = ± 100 ppm/°C									
						*01 Schematic greater than 250 Ω only									
Historical Part Number example: TSP803R1001F (will continue to be accepted)															
TSP		8		03		R		1001		F					
SERIES		PINS		SCHEMATIC		TCR CHARACTERISTIC		RESISTANCE		TOLERANCE AND RATIO TOLERANCE					



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