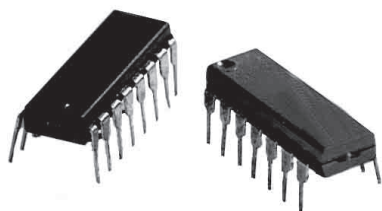


# Molded, Dual-In-Line Thin Film Resistor, Through-Hole Network



Actual Size

Vishay Dale Thin Film offers two standard circuits in a 14 pins and 16 pins molded dual-in-line over a 100  $\Omega$  to 100 k $\Omega$  resistance range. The networks feature ratio tolerance to 0.05 % with a TCR tracking of 5 ppm/ $^{\circ}$ C.

## FEATURES

- Standard rugged, molded case construction (14 pins and 16 pins)
- Highly stable thin film (500 ppm at +70  $^{\circ}$ C at 2000 h)
- Low temperature coefficient ( $\pm 25$  ppm/ $^{\circ}$ C)
- Compatible with automatic insertion equipment
- Standard isolated pin one common schematic
- Isolated and bussed schematics
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS\***  
Available  
**HALOGEN FREE**

## Note

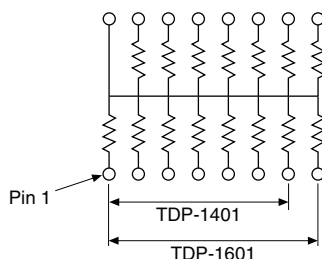
\* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

## TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.1	0.05

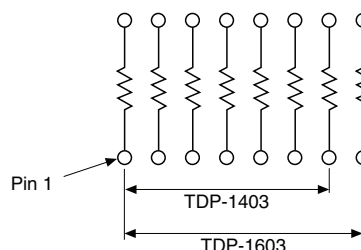
## SCHEMATIC

### Schematic TDP01



Models: TDP1401 and TDP1601  
13 or 15 resistors with one pin common

### Schematic TDP03

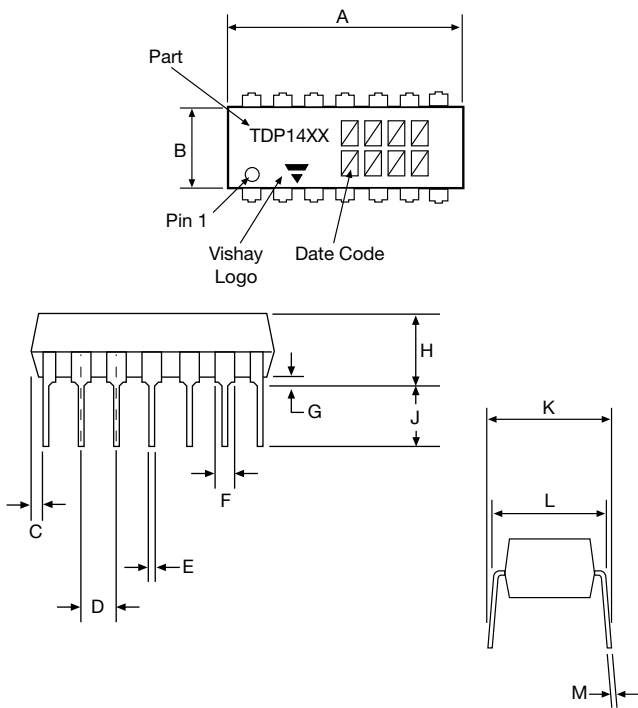
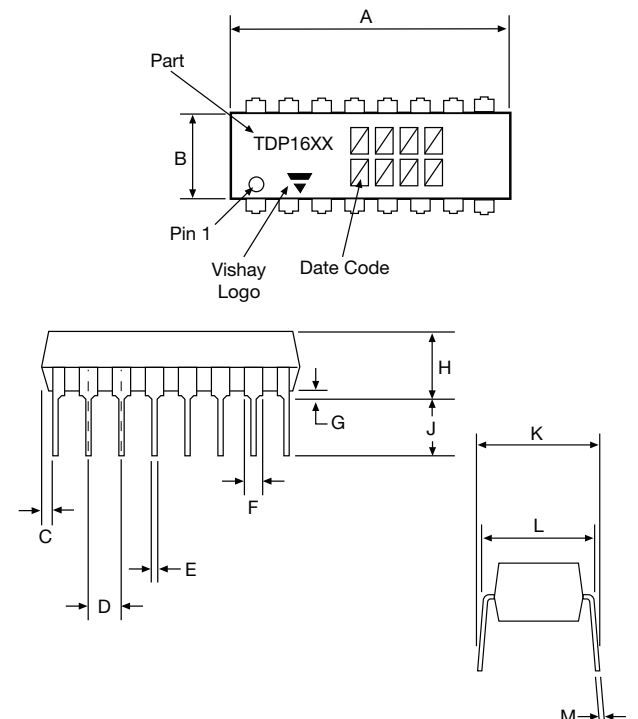


Models: TDP1403 and TDP1603  
7 or 8 isolated resistors

## STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Passivated nichrome	-
Pin/Lead Number	14, 16	-
Resistance Range	100 $\Omega$ to 100 k $\Omega$	-
TCR: Absolute	$\pm 25$ ppm/ $^{\circ}$ C	-55 $^{\circ}$ C to +125 $^{\circ}$ C
TCR: Tracking	$\pm 5$ ppm/ $^{\circ}$ C	-55 $^{\circ}$ C to +125 $^{\circ}$ C
Tolerance: Absolute	$\pm 0.1$ %	+25 $^{\circ}$ C
Tolerance: Ratio	$\pm 0.05$ % to $\pm 0.5$ %	+25 $^{\circ}$ C
Power Rating: Resistor	0.05 W/resistor = 01 circuit 0.10 W/resistor = 03 circuit	at +25 $^{\circ}$ C
Power Rating: Package	0.8 W/package	Maximum at +70 $^{\circ}$ C
Stability: Absolute	$\Delta R \pm 0.05$ %	2000 h at +70 $^{\circ}$ C
Stability: Ratio	$\Delta R \pm 0.015$ %	2000 h at +70 $^{\circ}$ C
Voltage Coefficient	< 1 ppm/V (typical)	-
Working Voltage	100 V	-
Operating Temperature Range	-55 $^{\circ}$ C to +125 $^{\circ}$ C	-
Storage Temperature Range	-55 $^{\circ}$ C to +150 $^{\circ}$ C	-
Noise	< -30 dB	-
Thermal EMF	0.08 $\mu$ V/ $^{\circ}$ C	-
Shelf Life Stability: Absolute	$\Delta R \pm 0.01$ %	1 year at +25 $^{\circ}$ C
Shelf Life Stability: Ratio	$\Delta R \pm 0.002$ %	1 year at +25 $^{\circ}$ C

**DIMENSIONS AND IMPRINTING** in inches and millimeters

	DIMENSION	INCHES	MILLIMETERS
	A	0.755	19.18
	B	0.250	6.35
	C	0.075	1.91
	D	0.100	2.54
	E	0.018	0.46
	F	0.060	1.52
	G	0.025	0.64
	H	0.190	4.83
	J	0.130	3.30
	K	0.320	8.13
	L	0.310	7.87
	M	0.010	0.25
	A	0.755	19.18
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**MECHANICAL SPECIFICATIONS**

Resistive Element	Passivated nichrome
Substrate Material	Silicon
Body	Conformal coated
Terminals	Copper alloy
Tin/Lead Option	Sn90
Lead (Pb)-free Option	100 % matte tin
Tin/Lead and Lead (Pb)-free Finish	Hot solder dip

**GLOBAL PART NUMBER INFORMATION**

New Global Part Numbering: TDP14031002BUF

T	T	D	P	1	4	0	3	1	0	0	2	B	U	F		
T	D	P	T	1	6	0	3	1	0	0	3	A	U	F		
GLOBAL MODEL (3 or 4 digits)				PINS		SCHEMATICS		RESISTANCE			TOLERANCE AND RATIO TOLERANCE			PACKAGING		
TDP (Tin lead)				14		01 = 13 or 15 resistors with 1 common pin		First 3 digits are significant figures and the last digit specifies the number of zeroes to follow.  e.g.: 1001 = 1K 1002 = 10K			Absolute			Ratio		UF = Tubed
TDPT (Lead (Pb)-free) (e3)				16		03 = 7 or 8 isolated resistors					A = ± 0.1 % <sup>(1)</sup> ± 0.05 % B = ± 0.1 % ± 0.1 % C = ± 0.25 % ± 0.1 % D = ± 0.5 % ± 0.1 % F = ± 1.0 % ± 0.5 %					

Historical Part Number example: TDP14031001F (for reference purposes only)

<b>TDP</b>	<b>14</b>	<b>03</b>	<b>1001</b>	<b>F</b>
SERIES	PINS	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE

**Note**<sup>(1)</sup> A tolerance on 250 Ω up



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