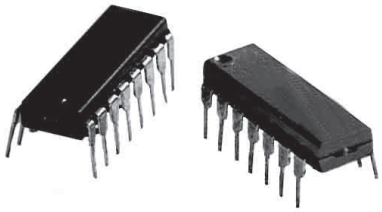
Molded, Dual-In-Line Thin Film Resistor, Through-Hole Network



Actual Size

Vishay Dale Thin Film offers two standard circuits in a 14 pins and 16 pins molded dual-in-line over a 100 Ω to 100 kΩ resistance range. The networks feature ratio tolerance to 0.05 % with a TCR tracking of 5 ppm/°C.

FEATURES

- Standard rugged, molded case construction (14 pins and 16 pins)
- Highly stable thin film (500 ppm at +70 °C at 2000 h)
- Low temperature coefficient (± 25 ppm/°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

Pb-free Available

RoHS* Available

HALOGEN FREE

Note

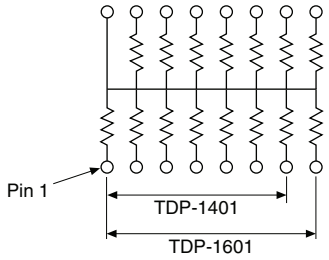
* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING
TCR	25	5
	ABSOLUTE	RATIO
TOL.	0.1	0.05

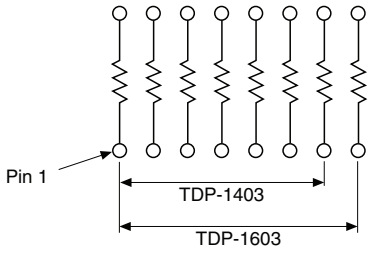
SCHEMATIC

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

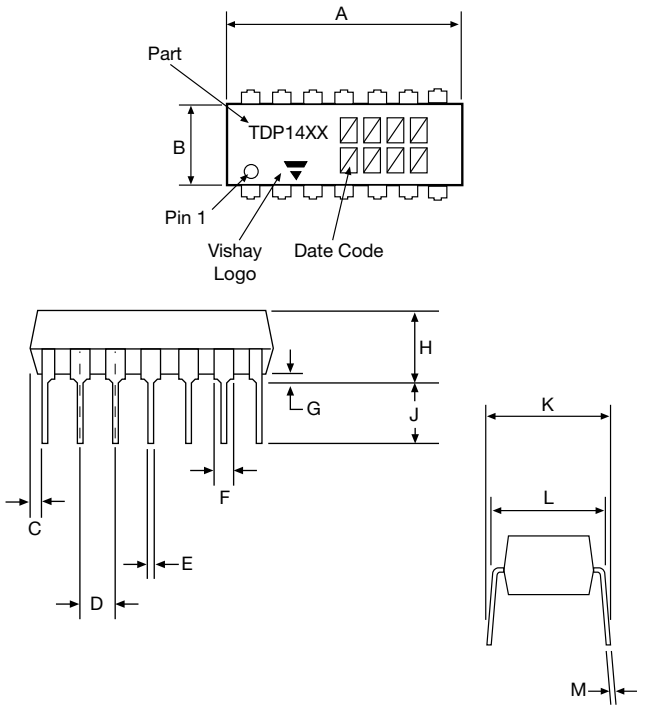
STANDARD ELECTRICAL SPECIFICATIONS

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

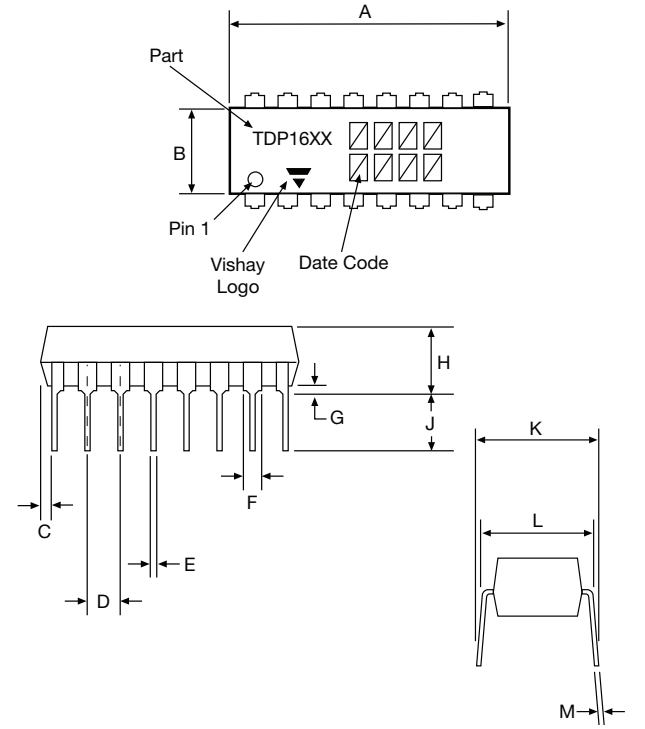
For technical questions, contact: thinfilm@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

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



DIMENSION	INCHES	MILLIMETERS
A	0.755	19.18
B	0.250	6.35
C	0.025	0.64
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

For technical questions, contact: thinfilm@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

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	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) **TDPT** (Lead (Pb)-free) (e3)	**14** **16**	**01** = 13 or 15 resistors with 1 common pin **03** = 7 or 8 isolated resistors	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 **A** = ± 0.1 % (1) / ± 0.05 % **B** = ± 0.1 % / ± 0.1 % **C** = ± 0.25 % / ± 0.1 % **D** = ± 0.5 % / ± 0.1 % **F** = ± 1.0 % / ± 0.5 %	**UF** = Tubed

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

TDP	14	03	1001	F
SERIES	PINS	SCHEMATIC	RESISTANCE	TOLERANCE AND RATIO TOLERANCE

Note

(1) A tolerance on 250 Ω up

For technical questions, contact: thinfilm@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

© 2022 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED