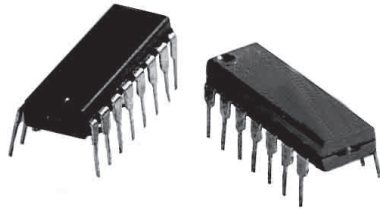


Molded, Dual-In-Line Thin Film Resistor, Through-Hole Network



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



Note

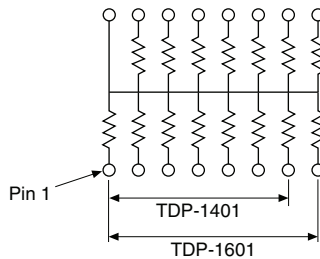
* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

TYPICAL PERFORMANCE

| | ABSOLUTE | TRACKING |
|------|----------|----------|
| TCR | 25 | 5 |
| | ABSOLUTE | RATIO |
| TOL. | 0.1 | 0.05 |

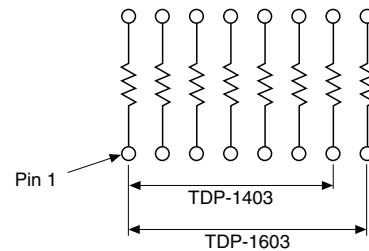
SCHEMATIC

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 | $\Delta R \pm 0.05$ % | 2000 h at +70 °C |
| Stability: Ratio | $\Delta R \pm 0.015$ % | 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 | $\Delta R \pm 0.01$ % | 1 year at +25 °C |
| Shelf Life Stability: Ratio | $\Delta R \pm 0.002$ % | 1 year at +25 °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 |
| 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 |



| 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 | <table border="1"> <thead> <tr> <th>Absolute</th> <th>Ratio</th> </tr> </thead> <tbody> <tr> <td>A = ± 0.1 % ⁽¹⁾</td> <td>± 0.05 %</td> </tr> <tr> <td>B = ± 0.1 %</td> <td>± 0.1 %</td> </tr> <tr> <td>C = ± 0.25 %</td> <td>± 0.1 %</td> </tr> <tr> <td>D = ± 0.5 %</td> <td>± 0.1 %</td> </tr> <tr> <td>F = ± 1.0 %</td> <td>± 0.5 %</td> </tr> </tbody> </table> | 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 |
| 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 % | | | | | | | | | | | | | | | | |

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



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