

Conformal, Single In-Line Resistor Networks (Custom)

FEATURES

• Lead (Pb)-free available • Minimal PC board space Standard 100 mil centers

Integrated construction

TCR

TOL

(500 ppm at + 70 °C at 2000 hours)

TYPICAL PERFORMANCE

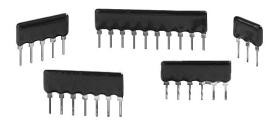
• Conformal coating flame resistant (UL94V-0 rating)

ABS

10

ABS

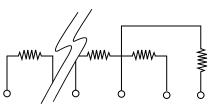
0.05



Wirewound or metal film performance in a space saving package.

SIP networks available in 3 - 10 pin sizes can obtain important performance parameters in an economical, mass producible style. SIPs take up the least amount of board space and are the easiest possible configuration to hand-insert into printed circuit boards. Standard pin centers are 0.100". Passivation coatings plus a conformal coating of epoxy protect the active element from the outside environment.

SCHEMATIC



Custom schematics available. Please consult factory

| STANDARD ELECTRICAL SPECIFICATIONS | | | | |
|------------------------------------|---------------------|-----------------------------------|---------------------|--|
| TEST | | SPECIFICATIONS | CONDITIONS | |
| Material | | Passivated Nichrome | | |
| Resistance Range | | 20 Ω to 2 M Ω total | | |
| TCR: | Tracking | ± 5 ppm/°C to ± 2 ppm/°C | - 55 °C to + 125 °C | |
| | Absolute | ± 25 ppm/°C to + 10 ppm/°C | - 55 °C to + 125 °C | |
| Tolerance: | Ratio | ± 0.5 % to ± 0.01 % | + 25 °C | |
| | Absolute | ± 1.0 % to ± 0.05 % | + 25 °C | |
| Power Rating: | Resistor | 100 mW per element | Max. at + 70 °C | |
| Ctobility | ∆ <i>R</i> Absolute | 500 ppm | 2000 h at + 70 °C | |
| Stability: | ∆ <i>R</i> Ratio | 150 ppm | 2000 h at + 70 °C | |
| Voltage Coefficient | | < 0.1 ppm/Volt | | |
| Working Voltage | | 100 Volts | | |
| Operating Temperature Range | | - 55 °C to + 125 °C | | |
| Storage Temperature Range | | - 55 °C to + 150 °C | | |
| Noise | | < - 30 dB | | |
| Thermal EMF | | < 0.10 µV/°C | | |
| Chalf I ifa Ctabilit | Absolute | < 100 ppm | 1 year at + 25 °C | |
| Shelf Life Stability | Ratio | 20 ppm | 1 year at + 25 °C | |

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



TRACKING

2

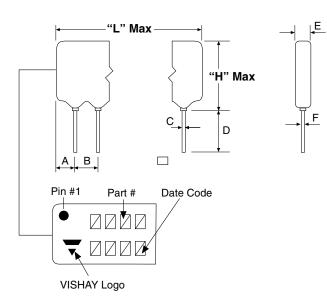
RATIO

0.02



Conformal, Single In-Line Resistor Networks (Custom) Vishay Thin Film

DIMENSIONS AND IMPRINTING in inches and millimeters



| DIMENSION | INCHES | MM |
|-----------|-------------------|-------------|
| А | 0.058 Тур. | 1.47 Тур. |
| В | 0.100 Тур. | 2.54 Typ. |
| С | 0.020 ± 0.003 | 0.51 ± 0.08 |
| D | 0.125 Min. | 3.18 Min. |
| E | 0.110 Max. | 2.79 Max. |
| F | 0.010 Тур. | 0.25 Typ. |

| NUMBER | LENGTH (L) | | HEIGHT (H) | |
|---------|------------|-------|------------|-------|
| OF PINS | INCHES | MM | INCHES | MM |
| 3 | 0.320 | 8.13 | | |
| 4 | 0.420 | 10.67 | | |
| 5 | 0.520 | 13.21 | | |
| 6 | 0.620 | 15.75 | 0.280* | 7.11* |
| 7 | 0.720 | 18.29 | | |
| 8 | 0.820 | 20.83 | | |
| 9 | 0.920 | 23.37 | | |
| 10 | 1.020 | 25.91 | | |

* H dimension, R-Value and Schematic dependent

| MECHANICAL SPECIFICATIONS | | |
|--------------------------------|-------------------------------|--|
| Resistive Elements | Passivated Nichrome | |
| Substrate Material | Alumina | |
| Body | Ероху | |
| Terminals | Copper | |
| Plating | Sn60 | |
| Marking Resistance to Solvents | per MIL-PRF-8340 | |
| Lead (Pb)-free Option | 96.5 % Sn, 3.0 % Ag, 0.5 % Cu | |
| Lead (Pb)-free Finish | Hot Solder Dip | |

ORDERING INFORMATION CHECK LIST (CUSTOMS)

Special requirements should be identified in advance, but as a minimum, you should have the following information ready.

| ELECTRICAL | MECHANICAL |
|---|--|
| Resistors, by value and tolerance Reference resistor(s) and matching of which resistors to which reference resistors Resistance by ratio Absolute temperature coefficient of resistivity Temperature tracking of subordinate resistors to reference resistor(s) Maximum operating voltage Resistor power ratings Operating temperature range | Maximum allowable seated height (from PC board to top of network) Special marking concerns Schematic pin out of package Specify if lead (Pb)-free |

All standard products may be ordered directly from VISHAY Thin Film.

THROUGH HOLE

Vishay Thin Film Conformal, Single In-Line Resistor Networks (Custom)



| GLOBAL PART NUMBER INFORMATION | | | | | |
|---|---|--|--|--|--|
| New Global Part Numbering: VTF2 | New Global Part Numbering: VTF211BX (preferred part number format) | | | | |
| V SLOBAL MODEL | T F 2 T F 1 0 PART NUMBER (3 or 4 digits) xxx or xxxx Example: 214 | 1 1 B 0 4 S B LEAD (Pb)-FREE (0 or 1 digits) S E S = Lead (Pb)-free (e1) Non Tin lead Non Tin lead S | X PACKAGING BX = Conductive Foam Box | | |
| Historical Part Number example: VTF Custom 211 (will continue to be accepted) VTF Custom 211 MODEL PART NUMBER | | | | | |



Vishay

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