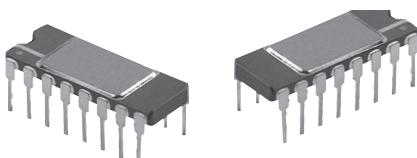


Hermetic, Dual-In-Line Thin Film Resistor, Through Hole Network (Custom)

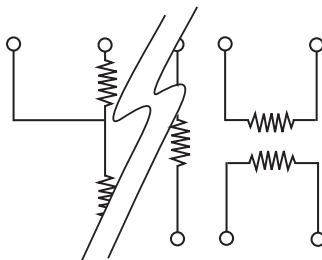


Designed to meet or exceed MIL-PRF-83401 characteristic "C"

The most advanced thin film technology is put to work in the manufacture of exceptionally stable, precision thin film resistor networks in a variety of popular hermetic-type packages. These networks are based on the utilization of a resistive film possessing outstanding stability throughout board assembly and equipment life.

Manufacturing is performed under rigid process control by a team of specialists having many years experience in the design, fabrication and automatic laser adjustment of several hundred different precision thin film resistor networks. Circuits are designed for specific customer requirements and manufactured according to highly standardized procedures. Testing is conducted in one of the most completely equipped laboratories in the industry.

SCHEMATIC



Custom schematics available.
Please consult factory.

FEATURES

- True hermetic construction
- Standard 8 pins, 14 pins, 16 pins, 18 pins, 20 pins packages
- Chip and wire construction
- Exceptional stability over time and temperature (500 ppm at + 70 °C at 2000 h)
- Military/aerospace
- Hermetically sealed
- Ideal for military/aerospace applications
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

Note

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



RoHS*
COMPLIANT
HALOGEN
FREE

TYPICAL PERFORMANCE

| | ABSOLUTE | TRACKING |
|------|----------|----------|
| TCR | 10 | 2 |
| | ABSOLUTE | RATIO |
| TOL. | 0.02 | 0.01 |

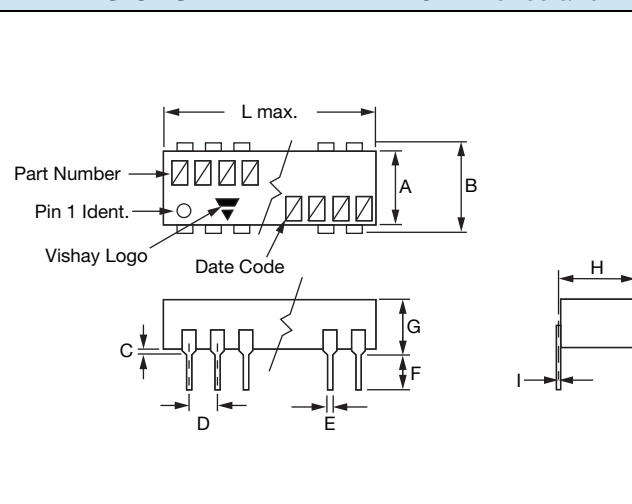
STANDARD ELECTRICAL SPECIFICATIONS

| TEST | SPECIFICATIONS | | CONDITIONS |
|--------------------------------|---|---------------------------------|---------------------|
| Material | Passivated nichrome | Tantalum nitride ⁽¹⁾ | - |
| Pin/Lead Number | 8 to 20 | | - |
| Resistance Range | 50 Ω to 1500 kΩ (total) | 50 Ω to 300 kΩ (total) | - |
| TCR: Absolute | ± 10 ppm/°C to ± 25 ppm/°C | | - 55 °C to + 125 °C |
| TCR: Tracking | ± 2 ppm/°C (typical less 1 ppm/°C equal values) | | - 55 °C to + 125 °C |
| Tolerance: Absolute | ± 0.02 % to ± 1.0 % | | + 25 °C |
| Tolerance: Ratio | ± 0.01 % to ± 0.5 % | | + 25 °C |
| Power Rating: Resistor | 100 mW (per element (typical)) | | + 25 °C |
| Power Rating: Package | - | | - |
| Stability: Absolute | 500 ppm | | 2000 h at + 70 °C |
| Stability: Ratio | 150 ppm | | 2000 h at + 70 °C |
| Voltage Coefficient | < 0.1 ppm/V | | - |
| 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 | < 0.10 μV/°C | | - |
| Shelf Life Stability: Absolute | ΔR ± 0.01 % | | 1 year at + 25 °C |
| Shelf Life Stability: Ratio | ΔR ± 0.002 % | | 1 year at + 25 °C |

Note

⁽¹⁾ Tantalum nitride film is custom

DIMENSIONS AND IMPRINTING in inches and millimeters

|  | DIMENSION | INCHES | MILLIMETERS |
|---|-------------|------------------|-------------|
| | A | 0.295 | 7.49 |
| | B | 0.310 ± 0.010 | 7.88 ± 0.25 |
| | C | 0.035 ± 0.010 | 0.89 ± 0.25 |
| | D | 0.100 non-accum. | 2.54 |
| | E | 0.018 ± 0.002 | 0.46 ± 0.05 |
| | F | 0.130 typical | 3.30 |
| | G | 0.130 max. | 3.30 |
| | H | 0.300 typical | 7.62 |
| | I | 0.010 typical | 0.25 |
| | L (8 Pins) | 0.528 | 13.41 |
| | L (14 Pins) | 0.710 | 18.03 |
| | L (16 Pins) | 0.810 | 20.57 |
| | L (18 Pins) | 0.910 | 23.11 |
| | L (20 Pins) | 1.010 | 25.65 |

MECHANICAL SPECIFICATIONS

| | |
|------------------------------------|---|
| Resistive Element | Passivated nichrome or tantalum nitride |
| Substrate Material | Alumina |
| Body | Ceramic |
| Terminals | Copper alloy |
| Tin/Lead Option | Sn63 |
| Lead (Pb)-free Option | Sn96.5, Ag3.0, Cu0.5 |
| Tin/Lead and Lead (Pb)-free Finish | Hot solder dip |

ORDERING INFORMATION CHECK LIST

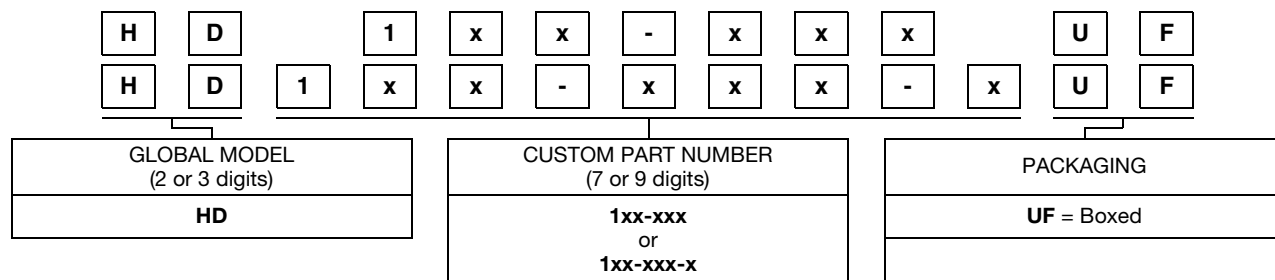
Special requirements should be identified in advance, but as a minimum, you should have the following information ready.

| ELECTRICAL | MECHANICAL |
|---|--|
| <ol style="list-style-type: none"> 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 | <ol style="list-style-type: none"> Maximum allowable seated height (from PC board to top of network) Special marking concerns Schematic pin out of package Specify if lead (Pb)-free |
| <p>For additional assistance refer to Vishay Dale Thin Film's guide to understanding Thin Film precision. Resistor networks or application engineering. All standard products may be ordered directly from Vishay Dale Thin Film.</p> | |

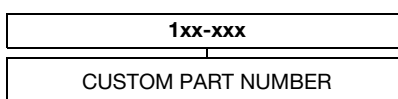


GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: HD1xx-xxxUF



Historical Part Number example: 1xx-xxx (for reference purposes only)





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