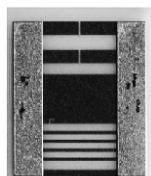


Thin Film Microwave Resistor

MICROWAVE RESISTORS



Product may not be to scale

The MID resistor chips on alumina are designed for low shunt capacitance applications with 200 mW power requirements.

These chips are manufactured using Vishay Electro-Films (EFI) sophisticated Thin Film equipment and manufacturing technology. The MIDs are 100 % electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

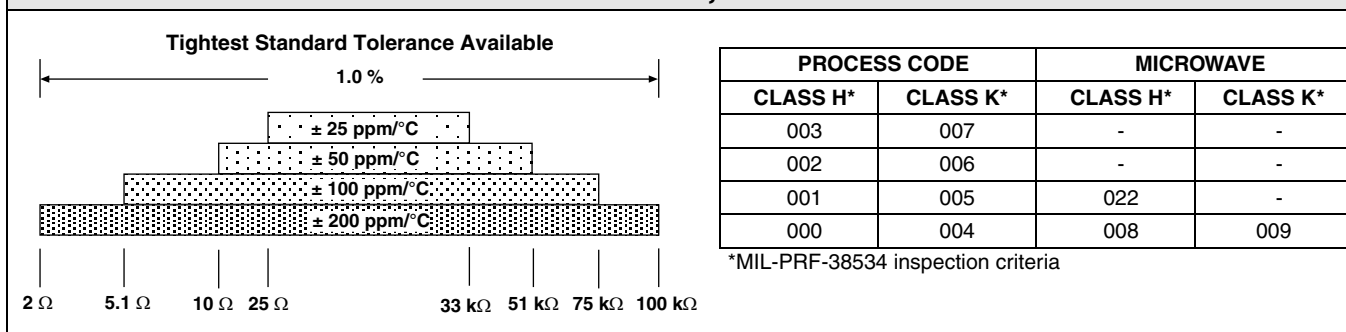
Vishay EFI MIC chip resistors provide excellent high-frequency response and are ideally suited for prototyping. Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

FEATURES

- Wire bondable
- Chip size: 0.050 inches square
- Microwave resistance range: 18 Ω to 500 Ω
- Overall resistance range: 2 Ω to 100 kΩ
- Alumina substrate
- Low stray capacitance: < 0.2 pF
- Power: 200 mW
- Resistor material: Tantalum nitride, self passivating
- Moisture resistant
- High frequency

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES

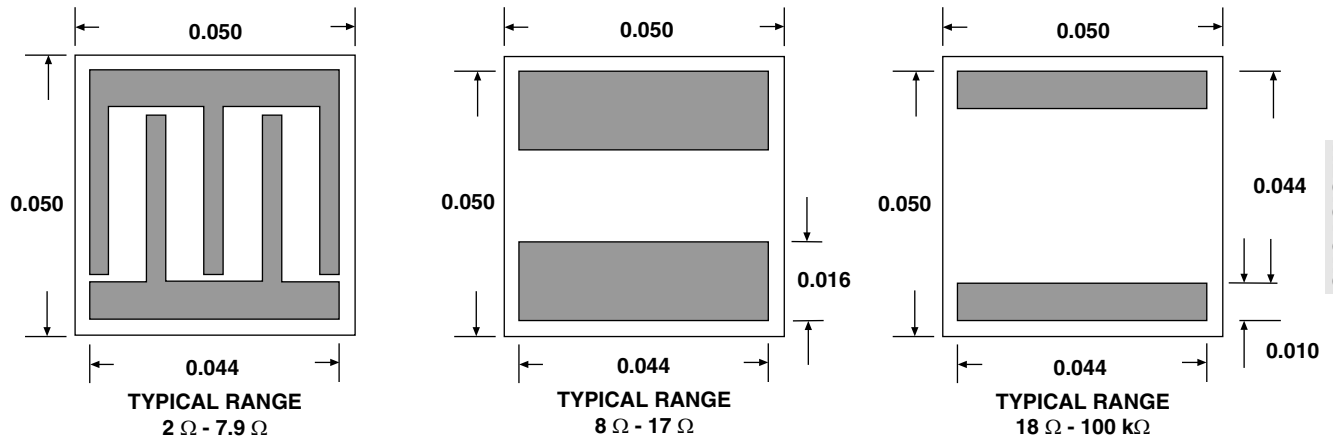


Note:

- Only 18 W to 500 W are standard strip line designs for microwave applications

STANDARD ELECTRICAL SPECIFICATIONS

| PARAMETER | |
|--|-----------------------|
| Noise, MIL-STD-202, Method 308 | - 20 dB typical |
| Moisture Resistance, MIL-STD-202, Method 106 | ± 0.1 % max. ΔR/R |
| Stability, 1000 h, + 125 °C, 100 mW | ± 0.2 % max. ΔR/R |
| Operating Temperature Range | - 55 °C to + 125 °C |
| Thermal Shock, MIL-STD-202, Method 107, Test Condition F | ± 0.1 % max. ΔR/R |
| High Temperature Exposure, + 150 °C, 1000 h | ± 0.2 % max. ΔR/R |
| Dielectric Voltage Breakdown | 400 V |
| Insulation Resistance | 10 ¹² min. |
| Operating Voltage | 100 V max. |
| DC Pwr Rating at + 70 °C (Derated to Zero at 150 °C) | 200 mW max. |
| 5 x Rated Power Short-Time Overload, + 25 °C, 5 s | ± 0.1 % max. ΔR/R |

DIMENSIONS in inches

SCHEMATIC

MECHANICAL SPECIFICATIONS in inches

| PARAMETER | |
|-------------------------|--|
| Chip Size | 0.050 x 0.050 ± 0.003 (1.27 x 1.27 ± 0.076 mm) |
| Chip Thickness | 0.010 ± 0.002 (0.254 ± 0.05 mm) |
| Chip Substrate Material | 99.6 % alumina, 2 - 4 microinch finish |
| Resistor Material | Tantalum nitride, self passivating |
| Bonding Pad Size | 0.010 x 0.044 (0.254 x 1.11 mm) |
| Number of Pads | 2 |
| Pad Material | 25 kÅ minimum gold standard |
| Backing | None |

Options: Terminations: Aluminum, nickel solder (62/32/2)
 Gold back for solder die attach
 Contact Applications Engineer

ORDERING INFORMATION

Example: 100 % visualled, 50 Ω, ± 10 %, ± 100 ppm/°C TCR, gold pads, class H visual inspection

| W INSPECTION/ PACKAGING | MID PRODUCT FAMILY | 001 PROCESS CODE | 5000 RESISTANCE VALUE | B MULTIPLIER CODE | K TOLERANCE CODE |
|---|--------------------------|------------------------|---|---|--|
| W = 100 % visually inspected parts in matrix trays per MIL-STD-883 | | See Process Code table | Use first 4 digits significant digits of the resistance | B = 0.01 A = 0.1 0 = 1 1 = 10 2 = 100 | F = 1.0 % G = 2.0 % H = 2.5 % J = 5.0 % K = 10 % M = 20 % L = 25 % N = 50 % |
| X = Sample, visually inspected parts loaded in matrix trays (4 % AQL) | | | | | |



Disclaimer

All product specifications and data are subject to change without notice.

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