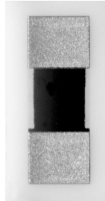


Thin Film Microwave Resistor



Product may not be to scale

MICROWAVE RESISTORS

The MIC resistor chips on alumina are designed with low shunt capacitance. Most lower value resistor geometrics are compatible with strip lines, making them ideally suited for microwave circuits.

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

APPLICATIONS

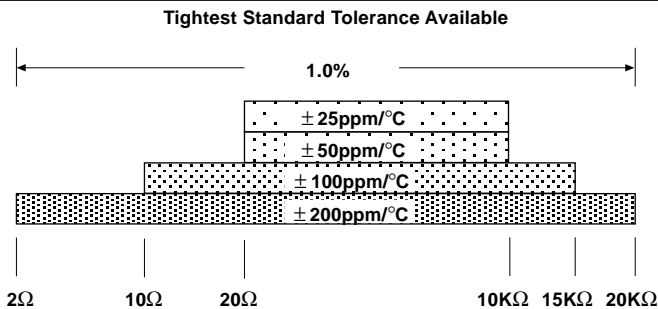
Vishay EFI MIC chip resistors provide excellent high-frequency response and are ideally suited for prototyping. Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters

FEATURES

- Small chip size: 0.020 x 0.040 inches
- Microwave resistance range: 20Ω - 1kΩ
- Overall resistance range: 2Ω to 20kΩ
- Alumina substrate
- Low stray capacitance: < 0.2pF
- Resistor material: tantalum nitride, self passivating
- Moisture resistant

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



PROCESS CODE		MICROWAVE	
CLASS H*	CLASS K*	CLASS H*	CLASS K*
004	034	-	-
002	032	-	-
001	031	-	-
003	033	016	017
Gold Termination			

*MIL-PRF-38534

NOTE: Only 20Ω to 1kΩ are standard strip line designs for Microwave applications

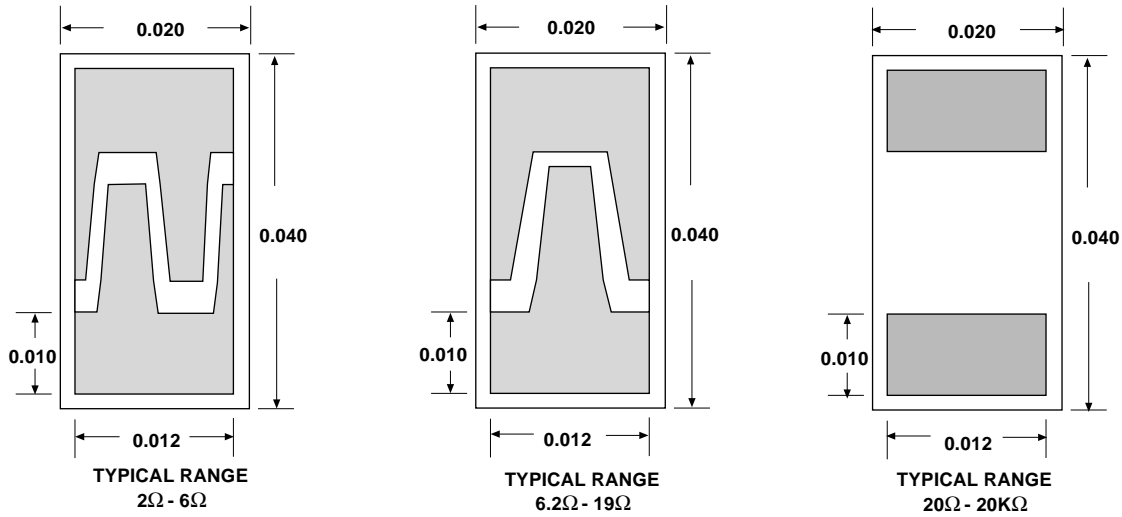
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308	- 20dB typical
Moisture resistance, MIL-STD-202, Method 106	± 0.1% maximum ΔR/R
Stability, 1000 hours, + 125°C, 62mW	± 0.2% maximum ΔR/R
Operating temperature range	- 55°C to + 125°C
Thermal shock, MIL-STD-202, Method 107, Test condition F	± 0.1% maximum ΔR/R
High temperature exposure, + 150°C, 1000 hours	± 0.2% maximum ΔR/R
Dielectric voltage breakdown	400V
Insulation resistance	10 ¹² minimum
Operating voltage	100V maximum
DC power rating at + 70°C (derated to zero at 150°C)	125mW maximum
5 x rated power short-time overload, + 25°C, 5 seconds	± 0.1% maximum ΔR/R

VISHAY ELECTRO-FILMS • FRANCE +33.4.93.37.28.24 FAX: +33.4.93.37.27.31 • GERMANY +49.9287.710 FAX: +49.9287.70435 • ISRAEL +972.3.557.0945 FAX: +972.3.558.9121
 • ITALY + 39.2.300.11911 FAX: +39.2.300.11999 • JAPAN +81.42.729.0661 FAX: +81.42.729.3400 • SINGAPORE +65.788.6668 FAX: +65.788.0988
 • SWEDEN +46.8.594.70590 FAX: +46.8.594.70581 • UK +44 191 514 8237 FAX: +44 1953 457 722 • USA: (401) 738-9150 FAX: (401) 738-4389



DIMENSIONS in inches



MICROWAVE RESISTORS

SCHEMATIC



MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip size	0.020 x 0.040 ± 0.003 (0.5 x 1.0 ± 0.076mm)
Chip thickness	0.010 ± 0.002 (0.254 ± 0.05mm)
Chip substrate material	99.6% alumina, 2 - 4 microinch finish
Resistor material	Tantalum nitride, self passivating
Bonding pad size	0.010 x 0.012 (0.254 x 0.30mm) minimum
Number of pads	2
Pad material	25kÅ minimum gold standard
Backing	None

OPTIONS: Terminations: Aluminum, Nickel solder (62/32/2)
 Gold back for solder die attach
 Consult Applications Engineer

ORDERING INFORMATION						
Example: 100% visualled, 50Ω, ± 10%, ± 100ppm/°C TCR, Gold Pads, Class H						
P/N:	W	MIC	001	5000	B	K
	INSPECTION /PACKAGING	PRODUCT FAMILY	PROCESS CODE	RESISTANCE VALUE	MULTIPLIER CODE	TOLERANCE CODE
	W = 100% visually inspected parts in matrix tray per MIL-STD-883 X = Sample commercial visually inspected loaded in matrix trays (4% AQL)		See Process Code table	Use first 4 significant digits of 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%

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