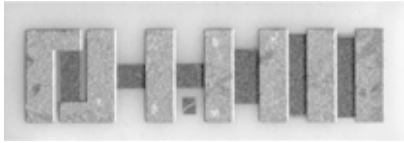


Thin Film Tapped Microwave Resistors

MICROWAVE RESISTORS



Product may not be to scale

FEATURES

- Six resistors on a single chip: size 0.020 x 0.060 inches
- Resistance range: 10Ω to 240Ω
- Alumina substrate
- Low stray capacitance: < 0.2pF
- Resistor material: tantalum nitride self passivating

The TMR resistor chips on alumina are designed with multiple low ohm taps for circuit trimming. The 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 TMRs are 100% electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

Vishay EFI TMR chip resistors provide excellent high frequency response and are ideally suited for prototyping.

Typical application areas are:

- Amplifiers
- Oscillators
- Attenuators
- Couplers
- Filters
- Limiters

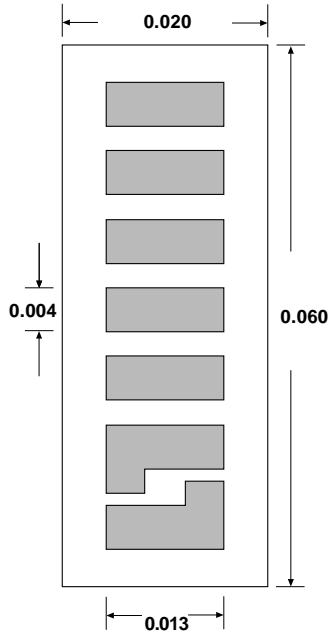
TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES	
Individual resistances	10Ω, 10Ω, 20Ω, 50Ω, 50Ω, 100Ω
Total resistance	240Ω
Tolerance	± 10% of total value
TCR	± 100ppm/°C

STANDARD ELECTRICAL SPECIFICATIONS	
PARAMETER	
Noise, MIL-STD-202, Method 308	- 20dB typical
Moisture resistance, MIL-STD-202, Method 106	± 0.5% maximum ΔR/R
Stability, 1000 hours, + 125°C, 62mW	± 1.0% maximum ΔR/R
Operating temperature range	- 55°C to + 125°C
Thermal shock, MIL-STD-202, Method 107, Test condition F	± 0.25% maximum ΔR/R
High temperature exposure, + 150°C, 1000 hours	± 0.5% maximum ΔR/R
Dielectric voltage breakdown	200V
Insulation resistance	10 ¹² minimum
Operating voltage	100V maximum
DC power rating at + 70°C (derated to zero at 150°C)	125mW
5 x rated power short-time overload, + 25°C, 5 seconds	± 0.25% maximum ΔR/R

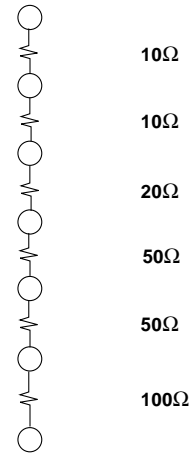
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DIMENSIONS in inches



SCHEMATIC



MICROWAVE RESISTORS

MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip size	0.020 x 0.060 ± 0.003 (1.5 x 0.5 ± 0.08mm)
Chip thickness	0.010 ± 0.002 (0.25 ± 0.05mm)
Chip substrate material	99.6% alumina, 2 - 4 microinch finish
Resistor material	Tantalum nitride, self passivating
Bonding pad size	0.004 x 0.013 (0.10 x 0.33mm)
Number of pads	7
Pad material	15kÅ minimum gold
Backing	None

OPTIONS: Gold back for solder die attach
Contact Applications Engineer

ORDERING INFORMATION						
Example: 100% visualled, 240Ω, ± 10%, ± 100ppm/°C TCR, Gold Pads, Class H						
P/N:	W INSPECTION /PACKAGING	TMR PRODUCT FAMILY	005 PROCESS CODE	2400 RESISTANCE VALUE	A MULTIPLIER CODE	K TOLERANCE CODE
	W = 100% visually inspected parts per MIL-STD-883 loaded in matrix tray X = Sample, visually inspected parts loaded in matrix trays (4% AQL)		See Process Code table	Use first 4 significant digits of resistance (RT)	A = 0.1	K = 10% M = 20% L = 25% N = 50%

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