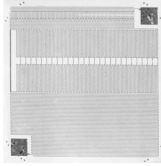


# Thin Film, Top-Contact Megohm Resistor



Product may not be to scale

## FEATURES

- Chip size: 0.050 inches square
- Resistance range: 500kΩ to 10MΩ
- Quartz substrate: < 0.1pF shunt capacitance
- Resistor material: tantalum nitride, self-passivating

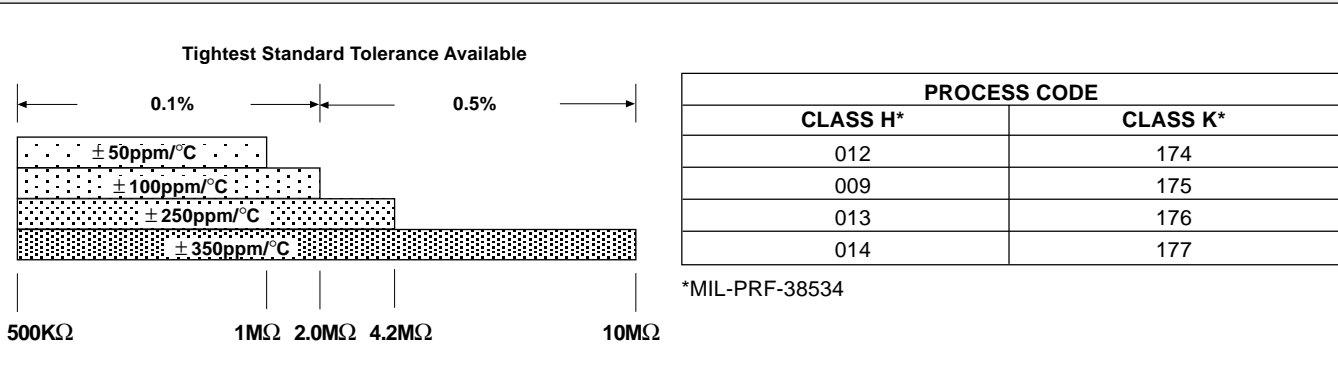
The QFX series, tantalum nitride on quartz resistor chips combine high resistance with low shunt capacitance. These offer one of the best combinations of small size, frequency response and high value available.

The QFXs are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The QFXs are 100% electrically tested and visually inspected to MIL-STD-883.

## APPLICATIONS

The QFX series resistor chips are designed for circuits requiring high values with lower shunt capacitance for higher frequency of operation.

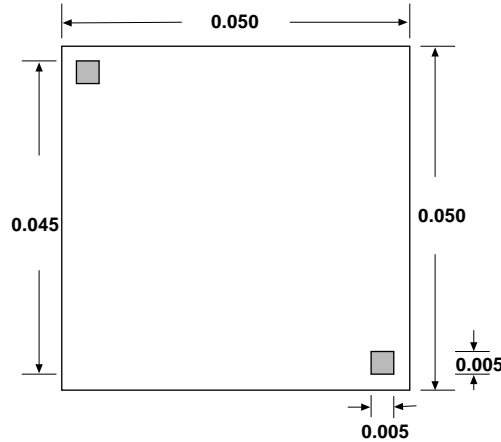
### TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



### STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308	- 12dB typical
Moisture resistance, MIL-STD-202 Method 106	± 0.5% maximum ΔR/R
Stability, 1000 hours, + 125°C, 10mW	± 0.5% 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, 100 hours	± 0.5% maximum ΔR/R
Dielectric voltage breakdown	400V
Insulation resistance	10 <sup>12</sup> minimum
Operating voltage	400V maximum
DC power rating at + 70°C (derated to zero at + 175°C)	20mW
5 x rated power short-time overload, + 25°C, 5 seconds	± 0.25% maximum ΔR/R

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**DIMENSIONS** in inches**SCHEMATIC**

<b>MECHANICAL SPECIFICATIONS</b> in inches	
PARAMETER	
Chip size	0.050 x 0.050 ± 0.003 (1.25 x 1.25 ± 0.75mm)
Chip thickness	0.010 ± 0.002 (0.254 ± 0.05mm)
Chip substrate material	Quartz
Resistor material	Tantalum nitride, self-passivating
Bonding pad	0.005 x 0.005 (0.127 x 0.127mm)
Number of pads	2
Pad material	10kÅ minimum aluminum
Backing	None, lapped quartz

**OPTIONS:** Gold bonding pads, 15 kÅ minimum  
Consult Applications Engineer

<b>ORDERING INFORMATION</b>						
Example: 100% visualled, 5MΩ, ± 1%, ± 350ppm/°C TCR, 50 mil, Aluminum Pads, Class H						
<b>P/N:</b>	<b>W</b>	<b>QFX</b>	<b>014</b>	<b>5000</b>	<b>3</b>	<b>F</b>
	INSPECTION /PACKAGING	PRODUCT FAMILY	PROCESS CODE	RESISTANCE VALUE	MULTIPLIER CODE	TOLERANCE CODE
	<b>W</b> = 100% visually inspected parts in matrix tray per MIL-STD-883		See Process Code table	Use first 4 significant digits of resistance	<b>1</b> = 10 <b>2</b> = 100 <b>3</b> = 1000 <b>4</b> = 10000	<b>B</b> = 0.1% <b>C</b> = 0.2% <b>D</b> = 0.5% <b>F</b> = 1.0% <b>G</b> = 2.0% <b>H</b> = 2.5% <b>J</b> = 5.0% <b>K</b> = 10% <b>M</b> = 20% <b>L</b> = 25%
	<b>X</b> = Sample, commercial parts visually inspected loaded in matrix trays (4% AQL)					

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