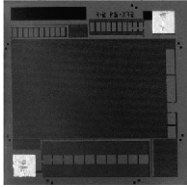


Thin Film, Top-Contact Megohm Resistor



Product may not be to scale

FEATURES

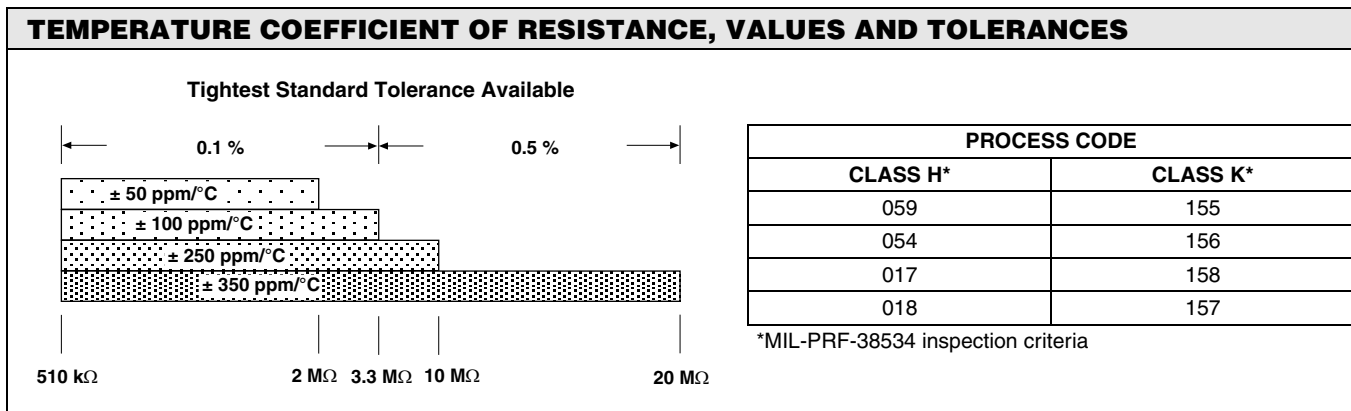
- Wire bondable
- Megohm resistance range: 0.51 MΩ to 20 MΩ
- Chip size: 0.040 inches square
- Reduced hybrid size
- Resistor material: tantalum nitride, self-passivating
- Oxidized silicon substrate

The SFX series resistor chips extends the range of available resistance to 20 MΩ. These offer one of the best combinations of small size and high value available.

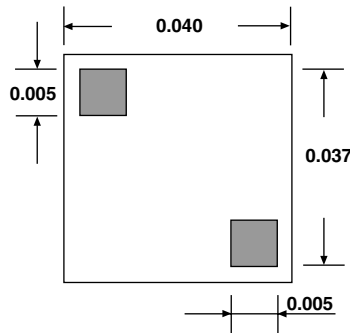
The SFXs are manufactured using Vishay Electro-Films (EFI) sophisticated thin film equipment and manufacturing technology. The SFXs are 100 % electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

The SFX series megohm resistor chips are designed for use in hybrid packages which require small-size high-value resistors.



STANDARD ELECTRICAL SPECIFICATIONS	
PARAMETER	
Noise, MIL-STD-202, Method 308	- 12 dB typ.
Moisture Resistance, MIL-STD-202 Method 106, (Passivated only)	± 0.5 % max. ΔR/R
Stability, 1000 h, + 125 °C, 10 mW	± 1.0 % max. ΔR/R
Operating Temperature Range	- 55 °C to + 125 °C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.25 % max. ΔR/R
High Temperature Exposure, + 150 °C, 100 h	± 0.5 % max. ΔR/R
Dielectric Voltage Breakdown	400 V
Insulation Resistance	10 ¹² min.
Operating Voltage	100 V max.
DC Power Rating at + 70 °C (Derated to Zero at + 175 °C)	20 mW
5 x Rated Power Short-Time Overload, + 25 °C, 5 s	± 0.25 % max. ΔR/R

DIMENSIONS in inches

SCHEMATIC


MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip Size	0.040 x 0.040 ± 0.003 (1.0 x 1.0 ± 0.075 mm)
Chip Thickness	0.010 ± 0.002 (0.254 ± 0.050 mm)
Chip Substrate Material	Oxidized silicon, 10 kÅ minimum SiO ₂
Resistor Material	Tantalum nitride, self-passivating
Bonding Pad Size	0.005 x 0.005 (0.127 x 0.127 mm)
Number of Pads	2
Pad Material	10 kÅ minimum aluminum
Backing	None, lapped semiconductor silicon

Options: Gold backing for eutectic die attach
 Resistance values above 20M are available in 0.055 inches square size
 0.030 inch square size also available with different values and TCR restrictions.
 Consult Applications Engineer

ORDERING INFORMATION					
Example: 100 % visual, 5 MΩ ± 1 %, ± 250 ppm/°C TCR, Aluminum Pads, Class H Visual inspection					
W	SFX	017	5000	3	F
INSPECTION/ PACKAGING	PRODUCT FAMILY	PROCESS CODE	RESISTANCE VALUE	MULTIPLIER CODE	TOLERANCE CODE
W = 100 % visually inspected parts, per MIL-STD-883 X = Sample, visually inspected parts loaded in matrix trays (4 % AQL)		See Process Code table	Use the first 4 significant digits of the resistance	2 = 100 3 = 1000 4 = 10 000	B = 0.1 % C = 0.2 % D = 0.5 % F = 1.0 % G = 2.0 % H = 2.5 % J = 5.0 % K = 10 % M = 20 % L = 25 % *Coating standard



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

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