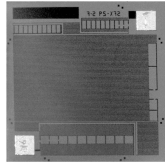


Thin Film, Top-Contact Megohm Resistor



Product may not be to scale

The SFX series resistor chips extends the range of available resistance to 20 Meg. 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.

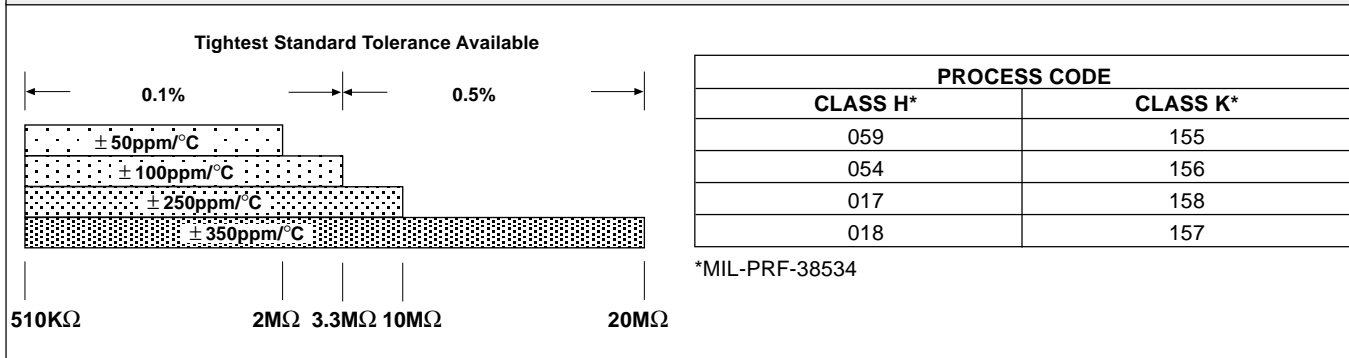
FEATURES

- Megohm resistance range: 1M to 20MΩ
- Chip size: 0.040 inches square
- Reduced hybrid size
- Resistor material: tantalum nitride, self-passivating
- Oxidized silicon substrate

APPLICATIONS

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

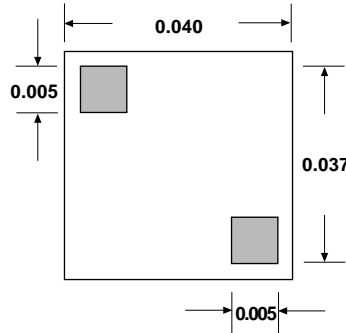
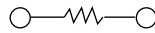
TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND TOLERANCES



STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308	- 12dB typical
Moisture resistance, MIL-STD-202 Method 106, (Passivated only)	± 0.5% maximum ΔR/R
Stability, 1000 hours, + 125°C, 10mW	± 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, 100 hours	± 0.5% 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 + 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


MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip size	0.040 x 0.040 ± 0.003 (1.0 x 1.0 ± 0.075mm)
Chip thickness	0.010 ± 0.002 (0.254 ± 0.050mm)
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 0.127mm)
Number of pads	2
Pad material	10 kÅ minimum aluminum
Backing	None, lapped semiconductor silicon

OPTIONS: Gold back 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% visualled, 5MΩ, ± 1%, ± 250ppm/°C TCR, Aluminum Pads, Class H						
P/N:	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-TSD-883 X = Sample, visually inspected parts loaded in matrix trays (4% AQL)		See Process Code table	Use first 4 significant digits of resistance	2 = 100 3 = 1000 4 = 10000	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% N = 50%