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(5-2008)





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 $M\Omega$ 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, method 2032 class H or class K.

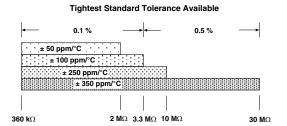
FEATURES

- Wire bondable
- Megohm resistance range: 0.51 M Ω to 20 M Ω
- Chip size: 0.040 inches square standard, 0.030 inches square and 0.055 inches square optional
- Case: 0404
- · Reduced hybrid size
- · Resistor material: Tantalum nitride, self-passivating
- Oxidized silicon substrate
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



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			
PARAMETER	VALUE	UNIT	
Total Resistance Range	360K to 30M	Ω	
Standard Tolerances	± 0.1, ± 0.5	%	
TCR	± 50, ± 100, ± 250, ± 350	ppm/°C	



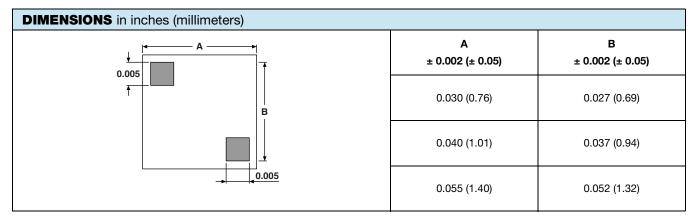
SIZE (in inches)	MIN.	MAX.
0.030 x 0.030	360 kΩ	10 MΩ
0.040 x 0.040	510 kΩ	20 MΩ
0.055 x 0.055	1 ΜΩ	30 MΩ

STANDARD ELECTRICAL SPECIFICATIONS			
PARAMETER	VALUE	UNIT	
Noise, MIL-STD-202, Method 308	- 12 typ.	dB	
Moisture Resistance, MIL-STD-202 Method 106, (Passivated only)	± 0.5 max. Δ <i>R</i> / <i>R</i>	%	
Stability, 1000 h, +125 °C, 10 mW	± 1.0 max. Δ <i>R/R</i>	%	
Operating Temperature Range	- 55 to + 125	°C	
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.25 max. Δ <i>R/R</i>	%	
High Temperature Exposure, +150 °C, 100 h	± 0.5 max. Δ <i>R/R</i>	%	
Dielectric Voltage Breakdown	400	V	
Insulation Resistance	10 ¹² min.	Ω	
Operating Voltage	100 max.	V	
DC Power Rating at +70 °C (Derated to zero at +175 °C)	0.020	W	
5x Rated Power Short-Time Overload, +25 °C, 5 s	± 0.25 max. Δ <i>R</i> / <i>R</i>	%	





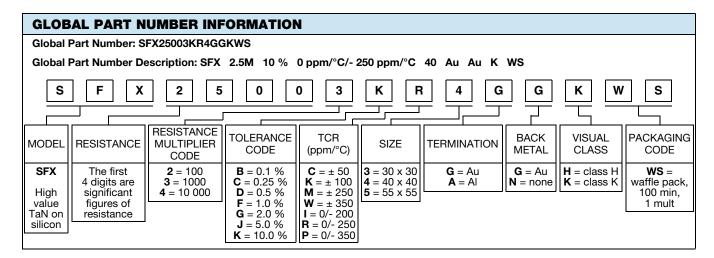
Vishay Electro-Films



SCHEMATIC



MECHANICAL SPECIFICATIONS		
PARAMETER	VALUE	
Chip Size	Per table above	
Chip Thickness	0.010" ± 0.002" (0.254 mm ± 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 mm x 0.127 mm)	
Number of Pads	2	
Pad Material	10 kÅ minimum aluminum (gold pads available)	
Backing	None, lapped semiconductor silicon (gold back available)	





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