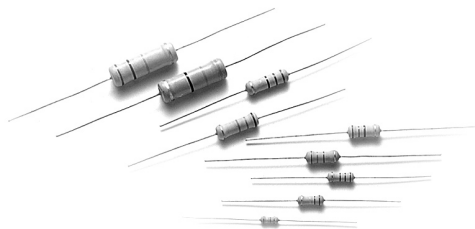


Metal Oxide Film Resistors

Flame-Proof Type

Normal & Miniature Style [RSF Series]



INTRODUCTION

The RSF Series Metal Oxide Film Flame-Proof Resistors offer excellent performance in applications where stability and uniformity of characteristics are desired. They provide lower cost alternatives to Carbon Composition Resistors and General Purpose Metal Films. Metal Oxides also can replace many low power General Purpose wirewound applications, saving both money and time, with shorter delivery cycles. The normal style & the miniature style of RSF series are coated with layers of gray and pink colors flame-proof lacquer respectively.

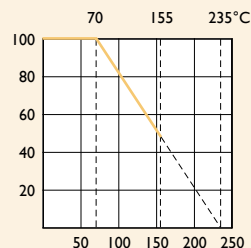
FEATURES

Power Rating	1/4W, 1/2W, 1W, 2W, 3W, 5W
Resistance Tolerance	±2%, ±5%
T.C.R.	±300ppm/°C
Flameproof Multi-layer Coating Meets	UL-94V-0
Flameproof Feature Meets Overload Test	UL-1412

DERATING CURVE

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.

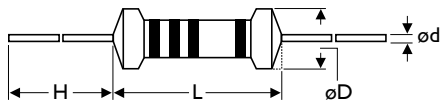
Rated Load (%)



Ambient Temperature (°C)

DIMENSIONS

Unit: mm



STYLE		DIMENSION			
Normal	Miniature	L	øD	H	ød
RSF-25	RSF50S	6.3±0.5	2.4±0.2	28±2.0	0.55±0.05
RSF-50	RSF1WS	9.0±0.5	3.3±0.3	26±2.0	0.55±0.05
RSF100	RSF2WS	11.5±1.0	4.5±0.5	35±2.0	0.8±0.05
RSF200	RSF3WS	15.5±1.0	5.0±0.5	33±2.0	0.8±0.05
RSF3WM	RSF5SS	17.5±1.0	6.5±1.0	32±2.0	0.8±0.05
RSF300	RSF5WS	24.5±1.0	8.5±1.0	38±2.0	0.8±0.05
RSF500	-	24.5±1.0	8.5±1.0	38±2.0	0.8±0.05

Note: RSF1WS (for MB Type) ød = 0.8±0.05mm

ELECTRICAL CHARACTERISTICS

NORMAL STYLE

STYLE	RSF-25	RSF-50	RSF100	RSF200	RSF3WM	RSF300	RSF500
Power Rating at 70°C	1/4W	1/2W	1W	2W	3W		5W
Maximum Working Voltage	200V	250V	350V		450V	500V	750V
Maximum Overload Voltage	300V	400V	600V		700V	800V	1,000V
Voltage Proof	250V	350V	500V		600V	700V	750V
Resistance Range	1 Ω - 1M Ω & 0 Ω for E24 series value						
Operating Temp. Range	-55°C to +235°C						
Temperature Coefficient	± 300 ppm/°C						

MINIATURE STYLE

STYLE	RSF50S	RSFIWS	RSF2WS	RSF3WS	RSF5SS	RSF5WS
Power Rating at 70°C	1/2W	1W	2W	3W	5W	
Maximum Working Voltage	250V	300V	350V		500V	700V
Maximum Overload Voltage	400V	500V	600V		800V	900V
Voltage Proof	350V	400V	500V		700V	700V
Resistance Range	1 Ω - 1M Ω & 0 Ω for E24 series value					
Operating Temp. Range	-55°C to +235°C					
Temperature Coefficient	± 300 ppm/°C					

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	IEC 60115-1 4.13	2.5 times RCWV for 5 Sec.	$\pm 1.0\% + 0.05 \Omega$ for normal style $\pm 2.0\% + 0.05 \Omega$ for miniature style
Voltage Proof	IEC 60115-1 4.7	in V-block for 60 Sec., test voltage by type	By type
Temperature Coefficient	IEC 60115-1 4.8	-55°C to +155°C	By type
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.	>1,000M Ω
Solderability	IEC 60115-1 4.17	235 ± 5 °C for 3 ± 0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30	IPA for 5 ± 0.5 Min. with ultrasonic	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16	Direct load for 10 Sec. in the direction of the terminal leads	≥ 2.5 kg (24.5N)
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	$\pm 2.0\% + 0.05 \Omega$
Damp Heat Steady State	IEC 60115-1 4.24	40 ± 2 °C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	$\pm 5.0\% + 0.05 \Omega$
Endurance at 70°C	IEC 60115-1 4.25	70 ± 2 °C at RCWV for 1,000 Hr. (1.5 Hr. on, 0.5 Hr. off)	$\pm 5.0\% + 0.05 \Omega$
Temperature Cycling	IEC 60115-1 4.19	-55°C $\Rightarrow$ Room Temp. $\Rightarrow$ +155°C $\Rightarrow$ Room Temp. (5 cycles)	$\pm 1.0\% + 0.05 \Omega$
Resistance to Soldering Heat	IEC 60115-1 4.18	260 ± 3 °C for 10 ± 1 Sec., immersed to a point 3 ± 0.5 mm from the body	$\pm 1.0\% + 0.05 \Omega$
Accidental Overload Test	IEC 60115-1 4.26	4 times RCWV for 1 Min.	No evidence of flaming or arcing

Note: Rated Continuous Working Voltage (RCWV) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$

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