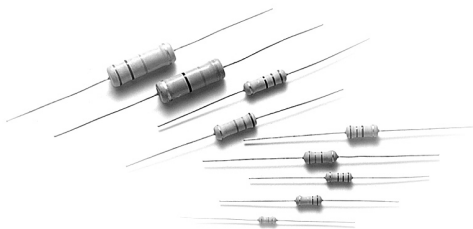


Metal Oxide Film Resistors

Flame-Proof Type

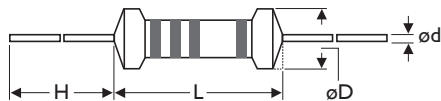
Normal & Miniature Style [RSF Series]



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.

DIMENSIONS



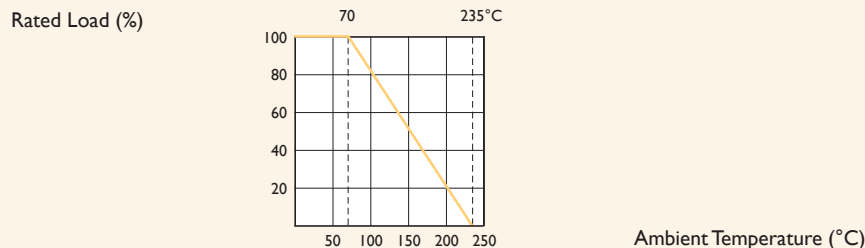
Note: RSF1WS (for MB Type) $\phi d = 0.8 \pm 0.05 \text{mm}$

FEATURES

Power Rating	1/4W, 1/2W, 1W, 2W, 3W, 5W
Resistance Tolerance	$\pm 2\%$, $\pm 5\%$
T.C.R.	$\pm 300 \text{ppm}/^\circ\text{C}$
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.



Unit: mm

STYLE		DIMENSION			
Normal	Miniature	L	ϕD	H	ϕd
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

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
Dielectric Withstanding Voltage	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	±300ppm/°C						

MINIATURE STYLE

STYLE	RSF50S	RSF1WS	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
Dielectric Withstanding Voltage	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	±300ppm/°C					

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	JIS-C-5202 5.7	2.5 times RCWV for 5 Sec.	±1.0%+0.05 Ω for normal style ±2.0%+0.05 Ω for miniature style
Dielectric Withstanding Voltage	JIS-C-5202 5.7	in V-Block for 60 Sec.	By type
Temperature Coefficient	JIS-C-5202 5.2	-55°C to +235°C	By type
Insulation Resistance	JIS-C-5202 5.6	in V-Block	>1,000M Ω
Solderability	JIS-C-5202 6.5	260±5°C for 5±0.5 Sec.	95% Min. coverage
Resistance to Solvent	JIS-C-5202 6.9	PA for 1 Min. with ultrasonic	No deterioration of coatings and markings
Terminal Strength	JIS-C-5202 6.1	Direct load for 10 Sec. in the direction of the terminal leads	≥2.5kg (24.5N)
Pulse Overload	JIS-C-5202 5.8	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±2.0%+0.05 Ω
Load Life in Humidity	JIS-C-5202 7.9	40±2°C, 90-95% RH at RCWV for 1,000 Hr: (1.5 Hr. on, 0.5 Hr. off)	±5.0%+0.05 Ω
Load Life	JIS-C-5202 7.10	70°C at RCWV for 1,000 Hr: (1.5 Hr. on, 0.5 Hr. off)	±5.0%+0.05 Ω
Temperature Cycling	JIS-C-5202 7.4	-55°C ⇄ Room Temp. ⇄ +155°C ⇄ Room Temp. (5 cycles)	±1.0%+0.05 Ω
Resistance to Soldering Heat	JIS-C-5202 6.4	350±10°C for 3±0.5 Sec.	±1.0%+0.05 Ω
Overload Flame Retardant	JIS-C-5202 7.12	4 times RCWV for 1 Min.	No evidence of flaming or arcing

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