Fusible Wirewound Resistors

INTRODUCTION

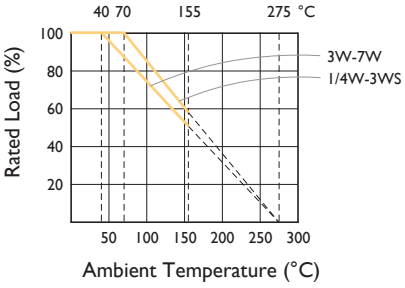
The resistor element is a resistive wire which is wound in a single layer on a ceramic rod, tinned connecting wires of electrolytic copper are welded to the end-caps. The ends of the resistance wire and the leads are connected to the caps by welding. The resistors are coated with layers of green color flame proof lacquer. Overload protection without risk of fire. Wide range of overload currents.

FEATURES

Power Rating	1/4W, 1/2W, 1W, 2W, 3W, 4W, 5W, 7W
Resistance Tolerance	±1%, ±5%
T.C.R.	±350ppm/°C
Flameproof Multi-layer Coating Meets	UL-94V-0
Flameproof Feature Meets Overload Test	UL-1412

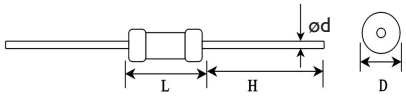
DERATING CURVE

For resistors operated in ambient temperatures above 40°C, power rating must be derated in accordance with the curve below.



DIMENSIONS

Unit: mm



STYLE	DIMENSION				
Normal	Miniature	L	øD	H	ød
FKN-25	FKN50S	6.3±0.5	2.4±0.2	28±2.0	0.55±0.05
FKN-50	FKN1WS	9.0±0.5	3.3±0.3	26±2.0	0.55±0.05
FKN100	FKN2WS	11.5±1.0	4.5±0.5	35±2.0	0.8±0.05
FKN200	FKN3WS	15.5±1.0	5.0±0.5	33±2.0	0.8±0.05
FKN300	FKN5WS	17.5±1.0	6.5±0.5	32±2.0	0.8±0.05
FKN400					
FKN500	FKN7WS	24.5±1.0	8.0±0.5	38±2.0	0.8±0.05

ELECTRICAL CHARACTERISTICS

NORMAL STYLE

STYLE	FKN-25	FKN-50	FKN100	FKN200	FKN300	FKN400	FKN500
Power Rating at 70°C	1/4W	1/2W	1W	2W	3W	4W	5W
Dielectric Withstanding Voltage	200V	300V					
Resistance Range	2.5 Ω - 22 Ω	0.8 Ω - 47 Ω	0.5 Ω - 100 Ω	0.1 Ω-150 Ω	0.1 Ω - 330 Ω		0.1 Ω - 390 Ω
Operating Temp. Range	-40°C to +155°C						
Temperature Coefficient	±350ppm/°C						

MINIATURE STYLE

STYLE	FKN50S	FKN1WS	FKN2WS	FKN3WS	FKN5WS	FKN7WS
Power Rating at 70°C	1/2W	1W	2W	3W	5W	7W
Dielectric Withstanding Voltage	200V	300V				
Resistance Range	2.5 Ω - 22 Ω	0.8 Ω - 47 Ω	0.5 Ω - 100 Ω	0.1 Ω - 150 Ω	0.1 Ω - 330 Ω	0.1 Ω - 390 Ω
Operating Temp. Range	-40°C to +155°C					
Temperature Coefficient	±350ppm/°C					

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	JIS-C-5202 5.5	2.5 times RCWV for 5 Sec.	±2.0%+0.05 Ω
Dielectric Withstanding Voltage	JIS-C-5202 5.7	in V-Block for 60 Sec.	By type
Temperature Coefficient	JIS-C-5202 5.2	-40°C to +155°C	By type
Insulation Resistance	JIS-C-5202 5.6	in V-Block	>100M 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	IPA 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)
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) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$