

FLAMEPROOF FUSIBLE RESISTORS

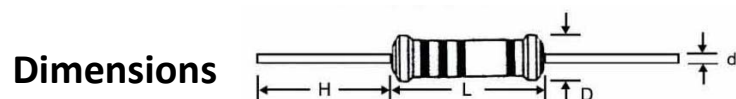
(FML, FMF, FKN & FSQ SERIES)

FMF,FML Series are low cost type resistors provide circuit protection for overload or component failure. The resistor will be opened quickly under continuous load, it prevents circuit board from damage and fire hazards.

Features

1. Suitable to apply in transistor protection circuit.
2. Small in sizes with low cost.
3. Noncombustible insulating coat, solvent proof and excellent application in high temperature.
4. Standard TCR $\pm 200\text{PPM}/^{\circ}\text{C}$
5. Uniform in fusing time.

FUSIBLE METAL FILM TYPE FMF, FML SERIES



General Specification

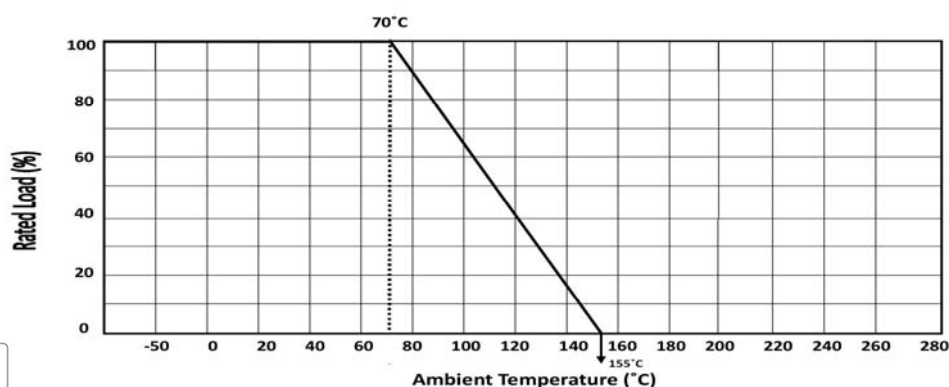
Style		Dimensions				Resistance Range	Max Working Voltage	Dielectric Withstanding Voltage
FML	FMF	L	D	d	H(MIN)			
1/4W	1/2W	6.5 ± 0.5	2.3 ± 0.2	0.50 ± 0.05	25	$1\Omega \sim 10\text{K}\Omega$	250V	300V
1/2W	1W	9 ± 0.5	3.5 ± 0.5	0.55 ± 0.05	25	$1\Omega \sim 10\text{K}\Omega$	300V	500V
1W	2W	11 ± 0.5	4.5 ± 0.5	0.73 ± 0.05	25	$1\Omega \sim 10\text{K}\Omega$	350V	500V
2W	3W	15 ± 0.5	5.0 ± 0.5	0.75 ± 0.05	25	$1\Omega \sim 10\text{K}\Omega$	500V	500V

Note: 1. Max overload voltage is 2 times Max working voltage.

2. 0.1-0.9 Ω available upon request.

3. MF form available, pls ref to the forming spec of [Metal Oxide Film Resistors](#)

Derating Curve



Fusing Characteristics:

Resistance Range	Fusing Power	
	FML	FMF
0.22Ω~1Ω	32 X Rated power	16 X Rated power
1.1Ω~2Ω	25 X Rated power	16 X Rated power
2.1Ω~10Ω	16 X Rated power	16 X Rated power
12Ω~10KΩ	12 X Rated power	16 X Rated power
Fusing Time: within 60 sec		

Note:1. Same fusing chart for FML,FMF,FKN and FSQ series.

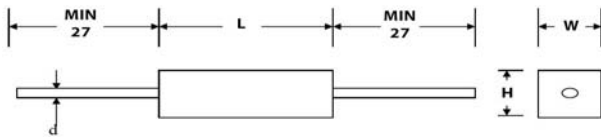
2. Special fusing time according to customers' spec is also available.

Characteristic

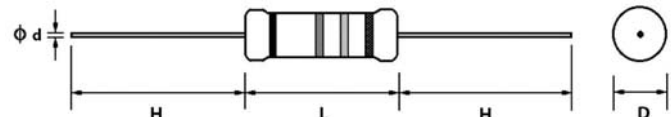
Characteristic	Condition	Spec.
Operating Temp.	- 40°C ~ + 240°C	
Resistance Temp. Coeff.	- 30°C ~ + 150°C	± 200 ppm/°C
Short Time Over Load	2 time of rated voltage for 5 sec.	± 2%
Insulation Resistance	500V megger	1,000M Ω
Temp Cycle	- 30°C ~ 85°C for 5 cycles	± 1%
Load Life	25°C on-off cycles 1,000 hrs.	± 5%
Moisture-Proof Load Life	40°C 95% RH on-off cycle 1,000 hrs.	± 5%
Solder Pot	270°C for 3 sec.	± 1%
Incombustibility	16 times of rated wattage for 5 min.	not flamed

*Total resistance change: ($\Delta R\% + 0.05 \Omega$)

FUSIBLE WIRE WOUND TYPE FKN, FSQ SERIES Dimensions



FSQ



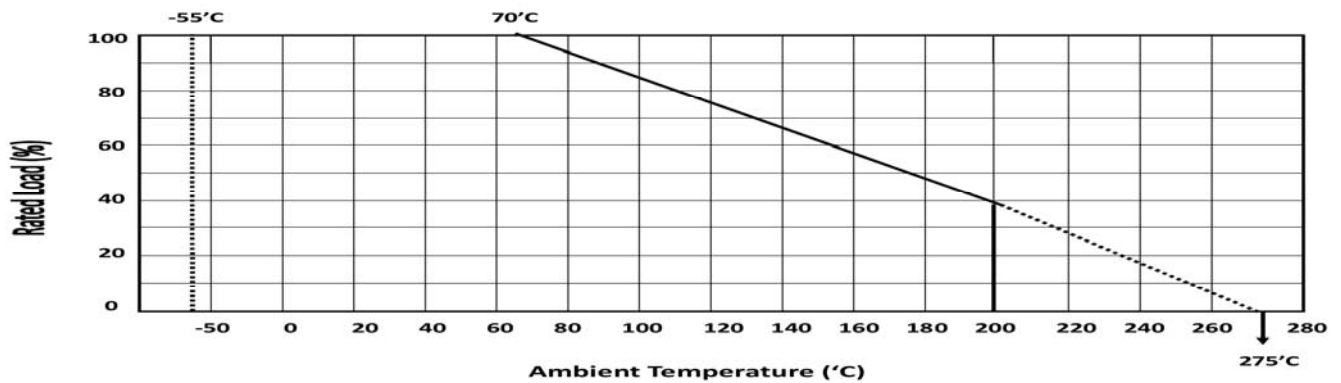
FKN

General Specification

Style	Power Rating	Dimensions						Resistance Range	Dielectric Withstanding Voltage
		L ± 1.5	D ± 1	h ± 0.5	W ± 0.5	d ± 0.05	H(MIN)		
FKN	1W	9	3			0.6	25	0.1Ω~10Ω	500V
	2W	11	4			0.73	27	0.1Ω~30Ω	500V
	3W	15	5.5			0.75	27	0.1Ω~50Ω	500V
	5W	17	6.5			0.75	27	0.3Ω~100Ω	500V
FSQ	2W	18		7	7	0.65	27	0.1Ω~22Ω	1000V
	3W	22		8	8	0.75	27	0.1Ω~50Ω	1000V
	5W	22		9	10	0.75	27	0.2Ω~50Ω	1000V
	7W	35		9	10	0.75	27	0.3Ω~100Ω	1000V
	10W	48		9	10	0.75	27	0.3Ω~150Ω	1000V



Derating Curve



Characteristic

Test items	Condition	Spec.
Operating Temp.	- 55 °C ~ + 275 °C	
Resistance Temp. Coeff.	-30 °C ~ + 150 °C	± 200 ppm/ °C
Short Time Over Load	2.5 time of rated voltage for 5 sec.	± 2%
Insulation Resistance	500V megger	1,000M Ω
Temp Cycle	- 30 °C ~ + 85 °C for 5 cycles	± 1%
Load Life	70 °C on-off cycles 1,000 hrs.	± 5%
Moisture-Proof Load Life	40 °C 95% RH on-off cycle 1,000 hrs.	± 5%
Solder Pot	270 °C for 3 sec.	± 1%
Incombustibility	16 times of rated wattage for 5 min.	not flamed

Parts Number system

FMF	—	2W	101	J	B
FMF-Fusible Metal Film Resistor Small Size		Wattages	Resistance	Tolerance	Packing Code
FML-Fusible Metal Film Resistor Normal Size			3 Digit code for 5% tolerance 4 Digit code for 1% tolerance	J = ±5% F = ±1%	R=Tape/Reeled T=Tape/Box B=Bulk Pack
FKN,FSQ-Fusible Wire Wound Resistor					

