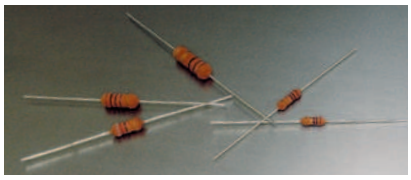
UniOhm

Fusible Resistors

RoHS Compliant

Feature

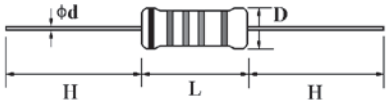


- Raw materials used for fusible resistors are that of Metal Film Resistors
- Ideal circuit opening controller, disconnecting units from overload rating specified
- Too low or too high ohmic value can be supplied on a case to case basis

Fusing Characteristics

Test Power	Fusing Time
16×Power Rating	≤ 60 seconds
20×Power Rating	≤ 40 seconds
24×Power Rating	≤ 30 seconds
28×Power Rating	≤ 20 seconds
32×Power Rating	≤ 15 seconds
32×Power Rating	≤ 60 seconds (0.22Ω - 0.99Ω)

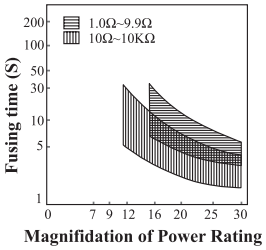
The fusing test current or voltage should be stable, change within 5%.



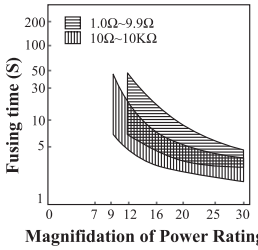
Specifications

Part No.	Type	Power Rating At 70°C	Dimension (mm)				Dielectric Withstanding Voltage	Resistance Range
			D Max.	L Max.	d +0.02 -0.05	H±3		
FRN0W4	FRN-25	1/4W	3	6.8	0.6	28	300V	0.22Ω ~ 10KΩ
FRN0W2	FRN-50	1/2W	3	9	0.6	28	350V	0.22Ω ~ 10KΩ
FRN01W	FRN-100	1W	4.5	10	0.7	28	350V	0.22Ω ~ 10KΩ
FRN02W	FRN-200	2W	5	12	0.7	28	600V	0.22Ω ~ 10KΩ
FRN03W	FRN-300	3W	5.5	16	0.8	28	600V	0.22Ω ~ 10KΩ

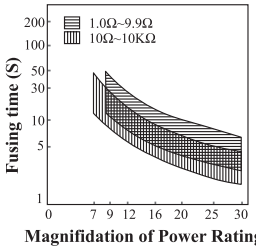
FRN0W4



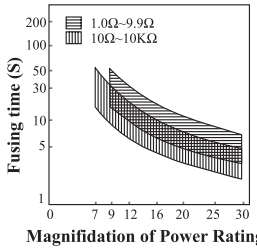
FRN0W2



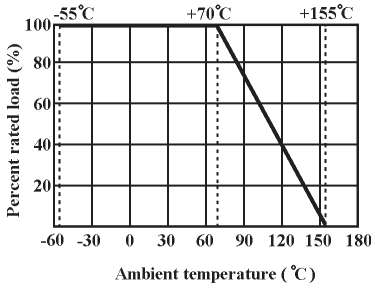
FRN01W



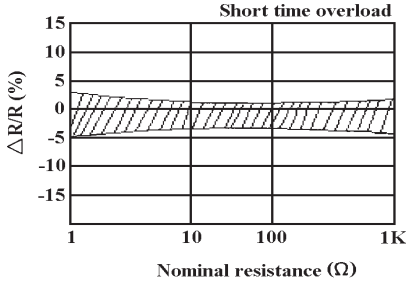
FRN02W & FRN03W



Derating Curve



Overload Curve



Performance Specifications

Temperature coefficient	± 350PPM / °C
Short-time overload	ΔR/R ≤ ±(2%+0.05Ω), with no evidence of mechanical damage.
Dielectric withstanding voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Terminal strength	No evidence of mechanical damage.
Resistance to Soldering heat	ΔR/R ≤ ±(1%+0.05Ω), with no evidence of mechanical damage.
Solderability	Min. 95% coverage.
Temperature cycling	ΔR/R ≤ ±(2%+0.05Ω), with no evidence of mechanical damage.
Load life in humidity	ΔR/R ≤ ±(5%+0.05Ω), with no evidence of mechanical damage.
Load life	ΔR/R ≤ ±(5%+0.05Ω), with no evidence of mechanical damage.
Flame retardant	Not have any specimens which burn with flaming combustion after each application of the test flame

Ordering Procedure (Example: FRN 1W 5% 1Ω T/B-1000)

F R N 0 1 W J 0 1 0 J A 1 0

Product Type:
FRN = Fusible Resistors

Special Features:
0 = Standard product

Wattage:
Normal size:
W4 = 1/4W
W2 = 1/2W
1W = 1W
2W = 2W
3W = 3W

Tolerance:
G = ±2%
J = ±5%
K = ±10%

Resistance Value:
E-24 series:
The 1st digit will be "0"; the 2nd & 3rd digits are for the significant figures of the resistance and the 4th digit indicate the numbers of zeros following

Packing Type:
A = Tape/Box
T = Tape/Reel
B = Bulk/Box

Packing Quantity:
1 = 1,000pcs
2 = 2,000pcs
3 = 3,000pcs
4 = 4,000pcs
5 = 5,000pcs
A = 500pcs
B = 2,500pcs,
0 = for Bulk/Box packing

Additional Information:
0 = NIL

Four Band Color Code (Available for CFR, MOR, KNP & 2% or 5% of MFR Products)

1 2 3 4

4th Band	
Red	= ±2%
Gold	= ±5%
Silver	= ±10%

1st Band		2nd Band		3rd Band	
Black	= 0	Black	= 0	Black	= Multiply by 1 (10^0)
Brown	= 1	Brown	= 1	Brown	= Multiply by 10 (10^1)
Red	= 2	Red	= 2	Red	= Multiply by 100 (10^2)
Orange	= 3	Orange	= 3	Orange	= Multiply by 1,000 (10^3)
Yellow	= 4	Yellow	= 4	Yellow	= Multiply by 10,000 (10^4)
Green	= 5	Green	= 5	Green	= Multiply by 100,000 (10^5)
Blue	= 6	Blue	= 6	Blue	= Multiply by 1,000,000 (10^6)
Violet	= 7	Violet	= 7	Violet	= Multiply by 10,000,000 (10^7)
Grey	= 8	Grey	= 8	Gold	= Multiply by 0.1 (10^{-1})
White	= 9	White	= 9	Silver	= Multiply by 0.01 (10^{-2})

Five Band Color Code (Available for MFR 1% & FRN Products)

1 2 3 4 5

5th Band	
Violet	= ±0.1%
Blue	= ±0.25%
Green	= ±0.5%
Brown	= ±1%

1st Band		2nd Band		3rd Band		4th Band	
Black	= 0	Black	= 0	Black	= 0	Black	= Multiply by 1 (100)
Brown	= 1	Brown	= 1	Brown	= 1	Brown	= Multiply by 10 (101)
Red	= 2	Red	= 2	Red	= 2	Red	= Multiply by 100 (102)
Orange	= 3	Orange	= 3	Orange	= 3	Orange	= Multiply by 1,000 (103)
Yellow	= 4	Yellow	= 4	Yellow	= 4	Yellow	= Multiply by 10,000 (104)
Green	= 5	Green	= 5	Green	= 5	Green	= Multiply by 100,000 (105)
Blue	= 6	Blue	= 6	Blue	= 6	Blue	= Multiply by 1,000,000 (106)
Violet	= 7	Violet	= 7	Violet	= 7	Violet	= Multiply by 10,000,000 (107)
Grey	= 8	Grey	= 8	Grey	= 8	Gold	= Multiply by 0.1 (10-1)
White	= 9	White	= 9	White	= 9	Silver	= Multiply by 0.01 (10-2)