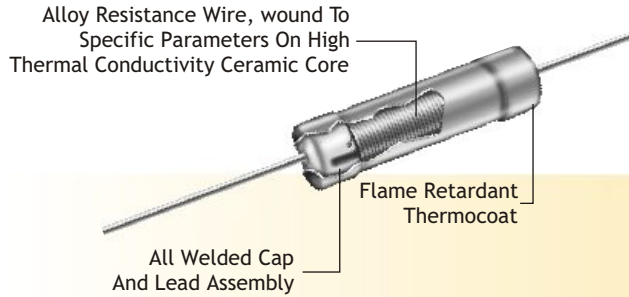




FRS SERIES

FUSIBLE RESISTORS

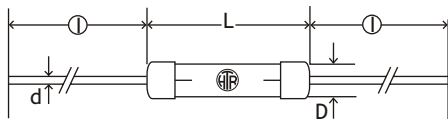
Flame Retardant Silicone Coated.



In order to meet the growing demand worldwide for resistors to fuse or blow as a safety measure, HTR can provide fusible resistor which fuse or blow if they are subjected to an abnormal spike of voltage / current.



PHYSICAL CONFIGURATIONS



HTR TYPE	POWER RATING at 40°C (Ambient)	DIMENSIONS (mm)				RESISTANCE RANGE		TYPICAL WT. PER PC (gms)
		L (max)	D ±0.5	l ±1.5	d ±0.05	min	max	
H-1F	1W	9.5	4.0	38	0.8	10R	750R	0.6
H-2F	2W	11.5	4.5	38	0.8	10R	1K0	0.8
D-2F	2W(70°C)	14.0	5.5	38	0.8	10R	1K5	1.1
H-3AF	3W	12.5	5.5	38	0.8	10R	2K4	1.1
H-3F	3W	15.5	6.0	38	0.8	10R	2K7	1.2
H-4F	4W	16.0	6.0	38	0.8	10R	3K3	1.3

* Coating overflow on each lead not to exceed half of 'D'.

Resistance values below the minimum range can be supplied on request.

ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS / DATA

Test	Performance requirements
Resistance tolerance	± 10% [K]; ± 5% [J]
Dielectric withstanding voltage	Max. R ± [2% ± R05]
Insulation resistance	>1000 M [Dry]
Temperature co-efficient	± 550 ppm/ °C
Short time overload	Max. R ± [2% + R05]
Moisture resistance	Max. R ± [5% + R05]
Load life	Max. R ± [5% + R05]
Ambient operating temperature range	-40°C to +155°C
Flame test	Specifications laid down by UL have been met satisfactorily

Note :

Contrary to popular belief, fusible resistors are not standard resistor types and each type of fusible resistor must be tailor designed to suit a particular application.



TYPICAL APPLICATIONS

As mentioned previously a fusible resistor is a tailor made dual purpose component -

- (a) In normal conditions it functions as a resistor.
- (b) In high overload conditions it acts as a fuse/safety device.

ORDERING INFORMATION

In order to design a fusible silicone coated resistor suitable for your needs, we need the following data :-

- 1) Power rating in terms of watts.
- 2) Resistance in ohms.
- 3) Tolerance.
- 4) Maximum continuous working voltage across the resistor, at which the resistor must continue to function.
- 5) Fusing voltage - The voltage at which the resistor must fuse or blow.
- 6) Fusing time - The duration within which the resistor must fuse or blow on being subjected to the fusing voltage.
- 7) In case lead preforming is required, we need a drawing. This service is provided upon a minimum order of 5000 pieces.
- 8) These resistors can also be provided in taped form. Refer to factory for details.

Note :

Generally speaking as per international standards, a fusible resistor fuses on being given fusing voltage from instantaneously to 45 seconds without any flame.

At HTR if no special data is provided, we assume that if a fusible resistor is ordered, it should fuse on being given voltage calculated at 16 times power from instantaneously to 45 seconds.

At HTR a special "safety version" is available in FRS series for resistance values $\geq 10R$ where in the resistor will fuse instantaneously when mains voltage 220/240V is applied, with no flame or explosion. Please suffix the type with alphabet 'S'.

For resistance values $< 10R$ the fusing timing and suitability must be tested for each individual application.

Precautions to be taken : Before conducting this test the voltage must be correctly set / adjusted by first using a dummy piece which should then be discarded.

ORDERING INFORMATION

