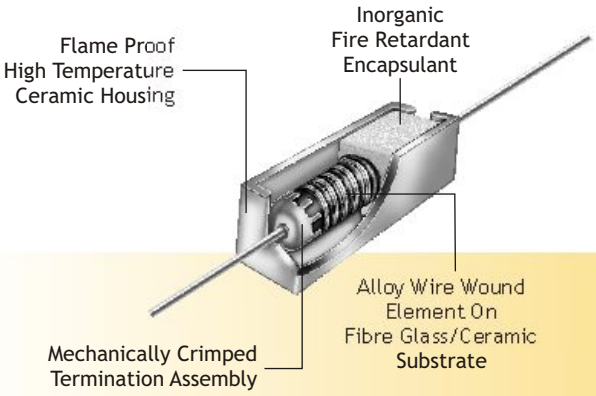


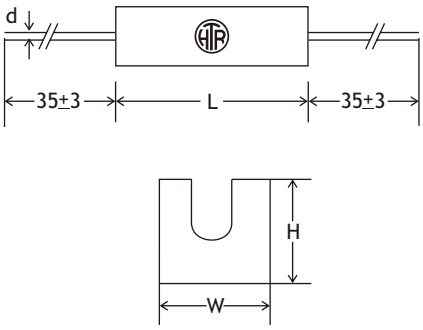
FRC SERIES

FUSIBLE RESISTORS

Ceramic Encased Bath Tub Type With
Flame Retardant Moulding.

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 70°C	DIMENSIONS (mm)				RESISTANCE RANGE		TYPICAL WT. PER PC (gms)
		L ±1.5	W ±1	H ±1	d ±0.05	min	max	
C-1AF	1W	13.0	5.5	5.5	0.8	10R	750R	1.4
C-1F	1W	15.0	7.5	6.5	0.8	10R	750R	1.9
C-2F	2W	17.5	7.5	7.0	0.8	10R	1K5	2.5
C-3F	3W	22.0	8.0	8.0	0.8	10R	2K2	3.8

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.

In some countries all types of ceramic encased / bath tub type resistors are wrongly called as fusible resistors. It must be clearly understood that fusible resistors are special purpose, specially designed resistors and are produced mainly in two configurations -

(a) Ceramic encased bath - tub type and
(b) Flame retardant silicone coated type. (Refer FRS series).

ORDERING INFORMATION

In order to design a fusible ceramic encased 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.

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.

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