

# Type MRT

## Time Lag Radial Lead Micro Fuse Series

HF <sup>Pb</sup> MRT Series

RoHS 6 Compliant

### Description

Sub-miniature, time lag type, 250V rated fuses designed, approved and complied with IEC 60127-3, standard sheet 4.

### Features

- Time lag (250V AC)
- Meet IEC standard 60127-3, sheet 4
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 6 compliant
- Halogen Free
- Leadfree

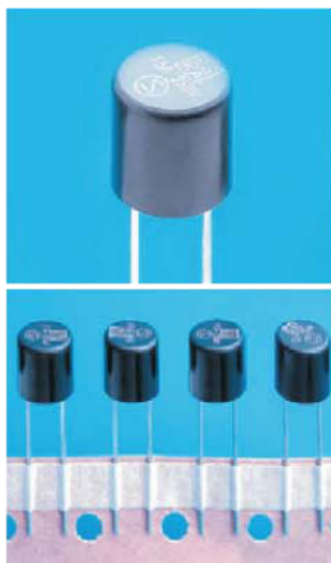
### Applications

- Provide individual protection for components or internal circuits.
- Power supplies
  - Battery chargers
  - Consumer Electronics
  - Adapter
  - Industrial Controllers

LEAD FREE = <sup>Pb</sup>  
HALOGEN FREE = HF

### Physical Specifications

Materials	Base and Cover : Black thermoplastic, UL 94-V0
	Pins : 100% Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "T", "Current Rating", "250V" & " Appropriate Safety Logos"
	On Label :
	"bel", "MRT", "Current Rating", "Voltage Rating", "Interrupting Rating", " Appropriate Safety Logos" and " <sup>Pb</sup> ", " <sup>CE</sup> " (China RoHS compliant).



### Electrical Characteristics (IEC-127-3 STANDARD SHEET 4)

Rated Current	1.5 In		2.1 In		2.75 In		4 In		10 In	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
80mA to 6.3A inclusive	1 hr.	2 min.	400 ms	10 sec	150 ms	3 sec	20 ms	150 ms		

In clause 9.2, the test voltage for MRT ratings from 80mA to 6.3A is 64VDC.

### Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	1410133, 1508149, 1410139	80mA - 6.3A / 250V ac	80mA - 6.3A / 250V ac @ 35A or 10 In whichever is greater.
	139937		80mA - 800mA / 250V ac @ 35A 1A to 4A / 250V ac @ 100A
	40001000		5A - 6.3A / 250V ac @ 100A
	LR39772		80mA - 6.3A / 250V ac @ 50A
	E20624		80mA - 6.3A / 277V ac @ 100A
	JET 1037-31007-1001		1A - 5A / 250V ac @ 100A
	2002010207021532		80mA - 6.3A / 250V ac @ 35A or 10 In whichever is greater

\* I.R. = INTERRUPTING RATING = SHORT CIRCUIT RATING (AMPS)

Specifications subject to change without notice



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



HF  MRT Series

RoHS 6 Compliant

### Environmental Specifications

Shock Resistance	MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform)
Vibration Resistance	MIL-STD-202G, Method 201A(10-55 Hz X 3 axis / no load).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B(48 hrs).
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition C. Top Side.(260 °C,20 sec)
Moisture Resistance	MIL-STD-202G, Method 202G, Method 106G
Operating Temperature	-55 °C to +125 °C

### Electrical Specifications

Catalog Number	Ampere Rating	Typical Cold Resistance (ohm)	Volt-drop @100% In (Volt) max.	Voltage and Interrupting Ratings	Melting I <sup>2</sup> T <10 mSec (A <sup>2</sup> Sec)	Melting I <sup>2</sup> T @10 In (A <sup>2</sup> Sec)	Maximum Power Dissipation (W)	Agency Approvals						
														
MRT 80	80mA	3.5	0.398	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.01	0.01	0.10	Y	Y	Y	Y		Y	
MRT 100	100mA	2.3	0.329		0.02	0.02	0.11	Y	Y	Y	Y		Y	
MRT 125	125mA	1.6	0.295		0.04	0.04	0.13	Y	Y	Y	Y		Y	
MRT 160	160mA	1.1	0.252		0.07	0.06	0.15	Y	Y	Y	Y		Y	
MRT 200	200mA	0.73	0.200		0.12	0.11	0.17	Y	Y	Y	Y		Y	
MRT 250	250mA	0.55	0.188		0.38	0.41	0.19	Y	Y	Y	Y		Y	
MRT 315	315mA	0.36	0.152		0.60	0.66	0.22	Y	Y	Y	Y		Y	
MRT 400	400mA	0.25	0.129		0.90	1.0	0.25	Y	Y	Y	Y		Y	
MRT 500	500mA	0.18	0.114		1.5	1.7	0.29	Y	Y	Y	Y		Y	
MRT 630	630mA	0.13	0.109		2.4	2.6	0.33	Y	Y	Y	Y		Y	
MRT 800	800mA	0.095	0.103		3.7	4.2	0.38	Y	Y	Y	Y		Y	
MRT 1	1A	0.070	0.090		6	7	0.44	Y	Y	Y	Y		Y	Y
MRT 1.25	1.25A	0.053	0.087		9	11	0.51	Y	Y	Y	Y		Y	Y
MRT 1.6	1.6A	0.038	0.085		15	17	0.58	Y	Y	Y	Y		Y	Y
MRT 2	2A	0.029	0.084		23	27	0.67	Y	Y	Y	Y		Y	Y
MRT 2.5	2.5A	0.022	0.084		37	43	0.77	Y	Y	Y	Y		Y	Y
MRT 3.15	3.15A	0.017	0.074		58	69	0.88	Y	Y	Y	Y		Y	Y
MRT 4	4A	0.013	0.073		92	110	1.02	Y	Y	Y	Y		Y	Y
MRT 5	5A	0.010	0.073		145	175	1.17	Y	Y	Y		Y	Y	Y
MRT 6.3	6.3A	0.008	0.072		230	281	1.34	Y	Y	Y		Y	Y	Y

Consult manufacturer for other ratings

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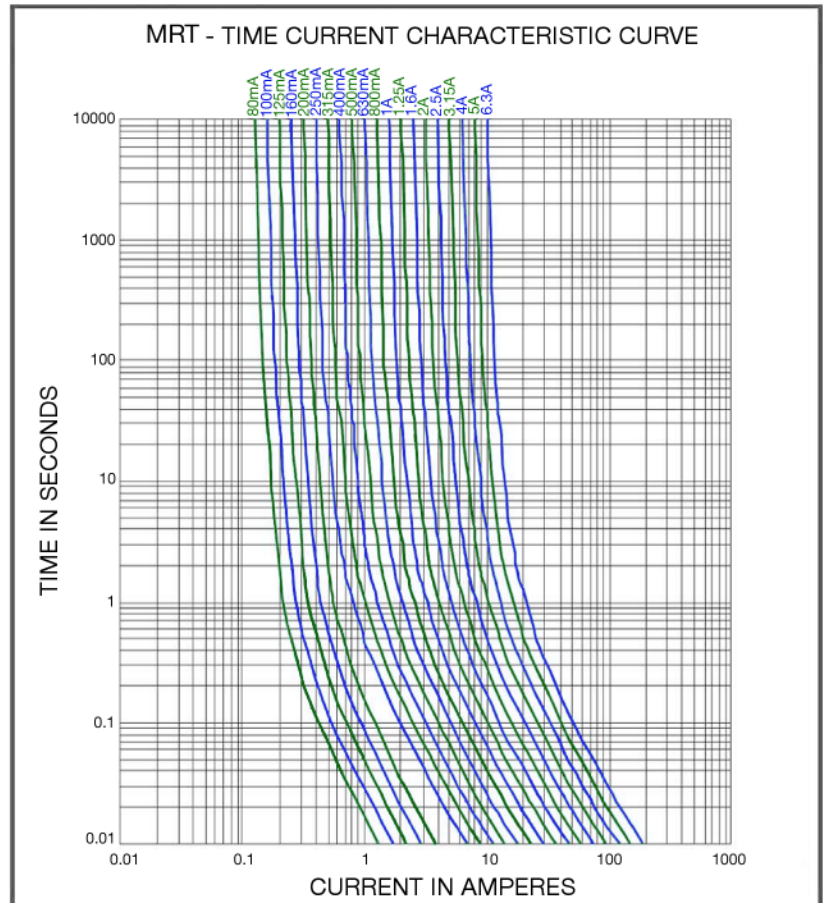
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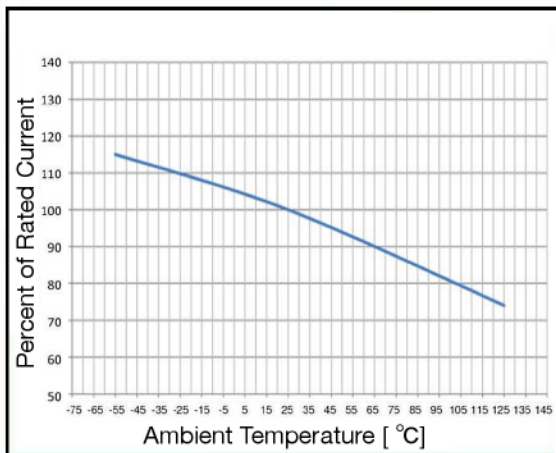
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### Average Time Current Curve

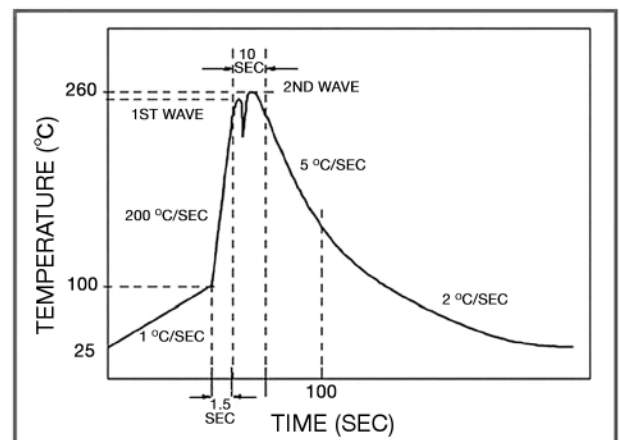


### Temperature Derating Curve



### Soldering Parameters

Lead-free Wave Soldering Profile	
Wave Soldering Parameter	
Average ramp-up rate	200 °C / second
Heating rate during preheat	typical 1 - 2 °C / second Max 4 °C / second
Final preheat temperature	within 125 °C of soldering temperature
Peak temperature Tp	260 °C
Time within +0 °C / -5 °C of actual peak temperature	10 seconds
Ramp-down rate	5 °C / second max.



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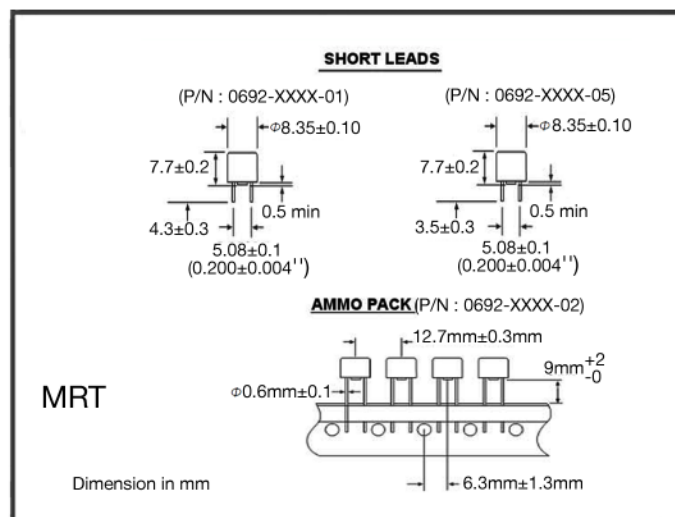
### Fuse FGNO Explanation

0692 - [XXXX] - XX

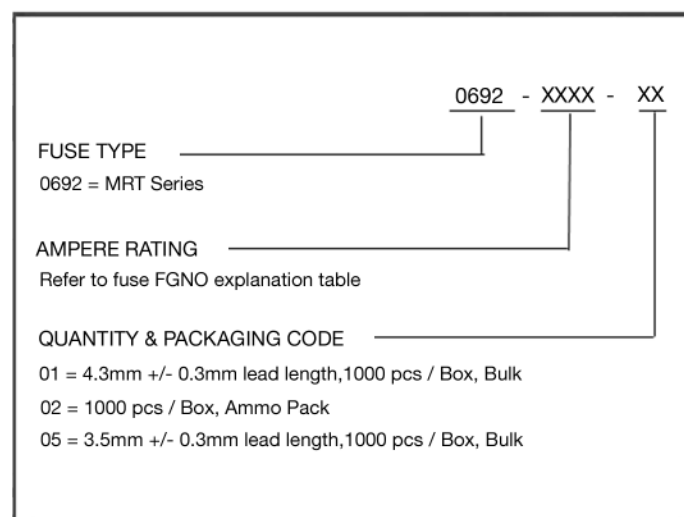
0692=MRT; [XXXX]=Ampere Rating; XX=See Ordering Information as below

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]	Fraction	Decimal	Amps	Bel FGNO[XXXX]
8/100	0.080	80	0080		1.0	1	1000
1/10	.100	100	0100	1-1/4	1.25	1.25	1250
1/8	.125	125	0125		1.60	1.6	1600
	.160	160	0160		2.0	2	2000
2/10	.200	200	0200	2-1/2	2.5	2.5	2500
1/4	.250	250	0250		3.15	3.15	3150
	.315	315	0315		4.0	4	4000
4/10	.400	400	0400		5.0	5	5000
1/2	.500	500	0500		6.3	6.3	6300
	.630	630	0630				
8/10	.800	800	0800				

### Mechanical Dimensions



### Ordering Information



### Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code
Bulk / bag, 1000 / box	N/A	1000	01 , 05
12.7 mm pitch, On Tape / box	IEC-286-2	1000	02

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