

# Type 5HT / 5HTP

## Time - lag Fuse Series (High-Breaking Capacity)

HF <sup>Pb</sup> 5HT/5HTP Series, 5x20mm Ceramic Tube Time - Lag Fuse

RoHS 6 Compliant

### Description

5x20mm Time-Lag surge withstand, high breaking capacity, ceramic body cartridge fuse designed, approved and complied with IEC 60127-2, standard sheet 5.

### Features

- High breaking capacity (250V ac @ 1500A)
- Meet IEC standard 60127-2, sheet 5
- 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 charger
- Monitor
- Adapter

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



### Physical Specifications

Materials	Body : Ceramic
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "T", "Current Rating", "H", "250V",
	"Appropriate Safety Logos", "✓" (RoHS 6 compliant)
	On Label :
	"bel", "5HT" or "5HTP", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "M", "C" (China RoHS compliant).

### Electrical Characteristics (IEC-127-2 STANDARD SHEET 5)

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
100mA to 3.15A	1	30	1	80	95	5	10	100		
4A and above	1	30	1	80	150	5	20	100		
	hr.	min.	sec	sec	ms	sec	ms	ms		

In clause 9.2, the test voltage for 5HTP ratings from 1A to 6.3A is 63VDC.

### Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	1410140	250mA - 10A / 250V AC	1A - 6.3A / 250V AC @ 1500A
	40000505		250mA - 6.3A / 600V AC @ 150A
	E20624		250mA - 10A / 250V AC @ 1,500A
	LR39772		250mA - 10A / 250V AC @ 1,500A
	JET1037-31003-1008 JET1037-31003-1009		1A - 5A / 250V AC @ 1500A
	2002010207021531		250mA - 6.3A / 250V AC @ 1,500A

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

Specifications subject to change without notice



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### 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, 0.06 inch, total excursion).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B(48 hrs).
Insulation Resistance	MIL-STD-202G, Method 302, Test Condition B (After Opening) 100, 000 ohms minimum.
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition B.(260+/-5 °C,10+/-1 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65 °C to +125 °C).
Operating Temperature	-55 °C to +125 °C
Terminal Strength	IEC-68-2-21

### 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					
								UL	CSA	CCC	SE	CE	Pb
5HT (P) 250-R	250mA	3.41	1.16	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.10	0.12	0.34	Y	Y	Y			
5HT (P) 315-R	315mA	2.08	0.90		0.18	0.22	0.38	Y	Y	Y			
5HT (P) 400-R	400mA	1.47	0.73		0.28	0.34	0.41	Y	Y	Y			
5HT (P) 500-R	500mA	1.03	0.66		0.46	0.58	0.48	Y	Y	Y			
5HT (P) 630-R	630mA	0.63	0.51		0.70	0.90	0.55	Y	Y	Y			
5HT (P) 800-R	800mA	0.39	0.40		1.1	1.5	0.64	Y	Y	Y			
5HT (P) 1-R	1A	0.20	0.25		1.7	1.7	0.73	Y	Y	Y	Y	Y	Y
5HT (P) 1.25-R	1.25A	0.14	0.24		3	3	0.81	Y	Y	Y	Y	Y	Y
5HT (P) 1.6-R	1.6A	0.095	0.19		5	6	0.91	Y	Y	Y	Y	Y	Y
5HT (P) 2-R	2A	0.069	0.18		10	11	1.00	Y	Y	Y	Y	Y	Y
5HT (P) 2.5-R	2.5A	0.047	0.16		17	20	1.10	Y	Y	Y	Y	Y	Y
5HT (P) 3.15-R	3.15A	0.031	0.13		31	38	1.20	Y	Y	Y	Y	Y	Y
5HT (P) 4-R	4A	0.020	0.10		56	69	1.40	Y	Y	Y	Y	Y	Y
5HT (P) 5-R	5A	0.015	0.10		101	128	1.50	Y	Y	Y	Y	Y	Y
5HT (P) 6.3-R	6.3A	0.012	0.10		181	237	1.70	Y	Y	Y	Y	Y	
5HT (P) 8-R	8A	0.008	0.09		330	439	2.70	Y	Y				
5HT (P) 10-R	10A	0.007	0.09		601	812	2.90	Y	Y				

Consult manufacturer for other ratings

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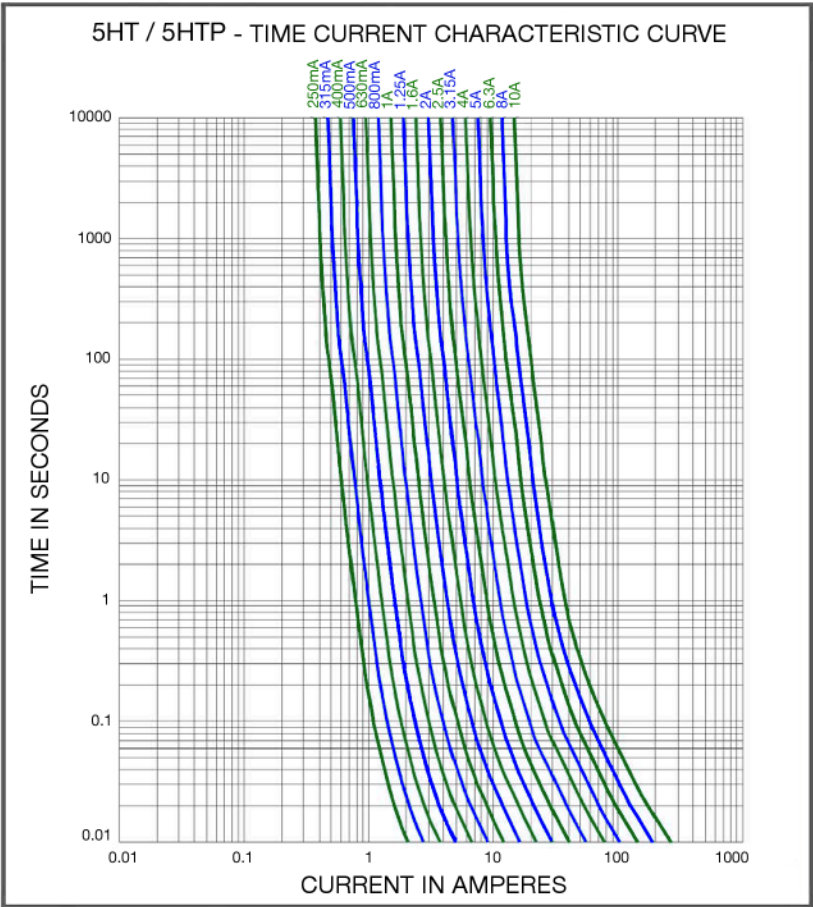
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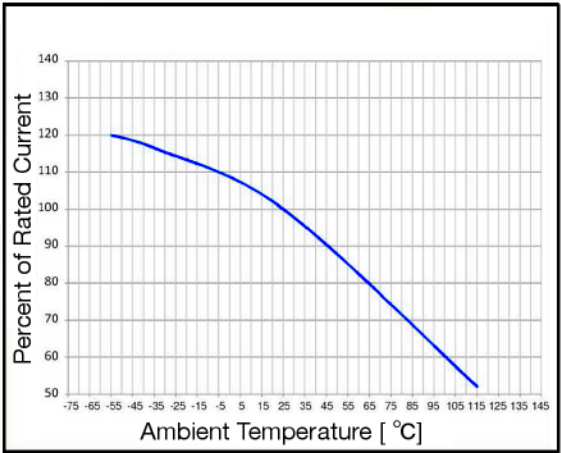
HF 5HT/5HTP Series, 5x20mm Ceramic Tube Time - Lag Fuse

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### Average Time Current Curve

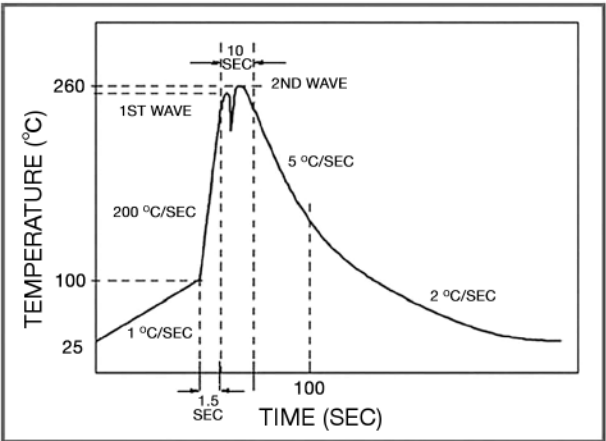


### Temperature Derating Curve



### 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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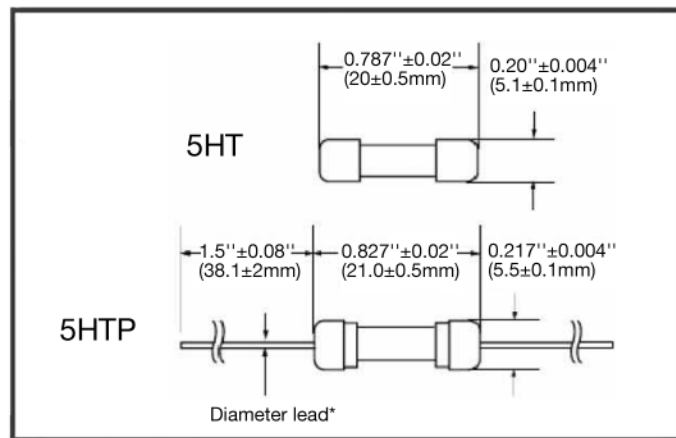
HF  5HT/5HTP Series, 5x20mm Ceramic Tube Time - Lag Fuse

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### Fuse FGNO Explanation 06XX X [XXXX] X XX, [XXXX]=Ampere Rating

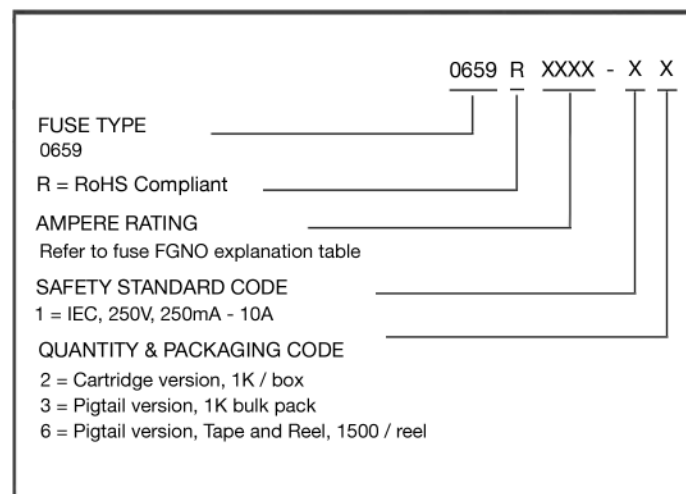
Fraction	Decimal	Milliamps	Bel FGNO[XXXX]	Fraction	Decimal	Amps	Bel FGNO[XXXX]
1/32	0.032	32	0032	1-1/4	1.25	1.25	1250
1/25	.040	40	0040	1-1/2	1.50	1.5	1500
1/20	.050	50	0050		1.60	1.6	1600
1/16	.063	63	0063		2.0	2	2000
8/100	.080	80	0080	2-1/4	2.25	2.25	2250
1/10	.100	100	0100	2-1/2	2.5	2.5	2500
1/8	.125	125	0125		3.0	3	3000
15/100	.150	150	0150		3.15	3.15	3150
	.160	160	0160	3-1/2	3.5	3.5	3500
2/10	.200	200	0200		4.0	4	4000
1/4	.250	250	0250		5.0	5	5000
3/10	.300	300	0300		6.0	6	6000
	.315	315	0315		6.3	6.3	6300
3/8	.375	375	0375		7.0	7	7000
4/10	.400	400	0400	7-1/2	7.5	7.5	7500
1/2	.500	500	0500		8.0	8	8000
6/10	.600	600	0600			10	9100
	.630	630	0630			12	9120
7/10	.700	700	0700			15	9150
3/4	.750	750	0750			20	9200
8/10	.800	800	0800			25	9250
						30	9300

### Mechanical Dimensions



\*Ratings 6.3A and less have 0.032" diameter lead  
\*Ratings 8A and above have 0.040" diameter lead

### Ordering Information



### Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	12	N/A
Bulk ( Pigtail Type )	N/A	1000	13	N/A
Tape & Reel, 10 mm Pitch	EIA-296-F	1500	16	63

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