

Type 5HF / 5HFP

Quick-acting Fuse Series (High -Breaking Capacity)

HF **Pb** 5HF/5HFP Series, 5x20mm Ceramic Tube Quick-acting Fuse

RoHS Compliant

Description

5x20mm quick-acting, high breaking capacity, ceramic body cartridge fuse designed, approved and complied with IEC 60127-2, standard sheet 1.

Features

- High breaking capacity (250V ac @ 1500A)
- Meet IEC standard 60127-2, sheet 1
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863
- Halogen Free
- Lead Free

Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = **Pb**
 HALOGEN FREE = **HF**



Physical Specifications

Materials	Body : Glass
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "F", "Current Rating", "H", "250V", "Appropriate Safety Logos", "✓" (RoHS compliant)
	On Label :
	"bel", "5HF" or "5HFP", "F", "Current Rating", "H", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "✓", "RoHS", "CE" (China RoHS compliant).

Electrical Characteristics (IEC-127-2 STANDARD SHEET 1) Safety Agency Approvals

Rated Current	1.5 In	2.1 In	2.75 In	4 In		10 In
	MIN	MAX	MIN	MAX	MIN	MAX
400mA to 3.15A	1	30	10	2	3	300
4A to 6.3A	1	30	10	3	3	300
8A to 12A	1	30	40	20	10	1000
	hr.	min.	ms	sec	ms	ms

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

Safety Agency	Safety Agency Certificate	Ampere Rating / Voltage Rating	Ampere Range / Volt @ I.R. ability*
	1907483	400mA-10A /250V AC	1A-10A/250V AC@1500A
	40000506		1A-6.3A / 250V AC@1500A
	E20624		400mA-10A/250V AC@1500A
	LR39772		400mA-10A/250V AC@1500A
	JET1037-31003-1008 JET1037-31003-1009		1A-5A/250V AC@1500A
	Self-declaration No: 2020970207000019		400mA-10A/250V AC@1500A

*I.R.= Interrupting Rating = Short Circuit Rating(Amps)

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 (ohms)	Volt-drop @100%In (Volt) max.	Voltage and Interrupting Ratings	Melting I ² T <10 mSec (A ² Sec)	Melting I ² T @10 In (A ² Sec)	Maximum Power Dissipation (W)	Agency Approvals					
								UL US	SP	CCC	S	DVE	PS E
5HF(P) 400-R	400mA	0.46	0.34	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.09	0.08	0.92	Y	Y	Y			
5HF(P) 500-R	500mA	0.34	0.32		0.16	0.15	1.11	Y	Y	Y			
5HF(P) 630-R	630mA	0.225	0.29		0.29	0.27	1.35	Y	Y	Y			
5HF(P) 800-R	800mA	0.192	0.23		0.36	0.35	0.58	Y	Y	Y			
5HF(P) 1-R	1A	0.139	0.19		0.65	0.63	0.69	Y	Y	Y	Y	Y	Y
5HF(P) 1.25-R	1.25A	0.097	0.17		1.2	1.2	0.81	Y	Y	Y	Y	Y	Y
5HF(P) 1.6-R	1.6A	0.072	0.16		2.1	2.1	0.96	Y	Y	Y	Y	Y	Y
5HF(P) 2-R	2A	0.052	0.14		3.8	3.8	1.1	Y	Y	Y	Y	Y	Y
5HF(P) 2.5-R	2.5A	0.039	0.13		6.8	6.8	1.3	Y	Y	Y	Y	Y	Y
5HF(P) 3.15-R	3.15A	0.029	0.13		12	12	1.6	Y	Y	Y	Y	Y	Y
5HF(P) 4-R	4A	0.022	0.13		22	22	1.9	Y	Y	Y	Y	Y	Y
5HF(P) 5-R	5A	0.016	0.13		39	40	2.2	Y	Y	Y	Y	Y	Y
5HF(P) 6.3-R	6.3A	0.011	0.10		70	73	2.7	Y	Y	Y	Y	Y	
5HF(P) 8-R	8A	0.010	0.11		126	131	3.1	Y	Y	Y	Y		
5HF(P) 10-R	10A	0.007	0.10		227	238	3.7	Y	Y	Y	Y		
5HF(P) 12-R	12A	0.005	0.09		408	430	4.4						

Consult manufacturer for other ratings

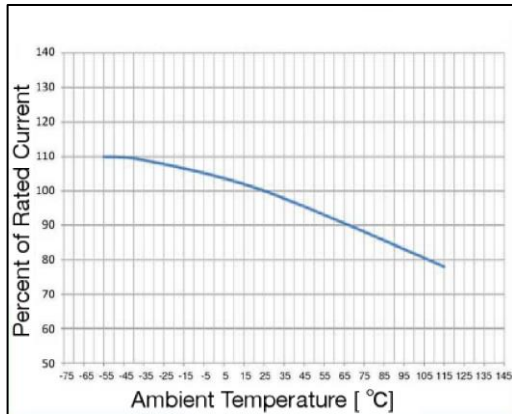


Specifications subject to change without notice

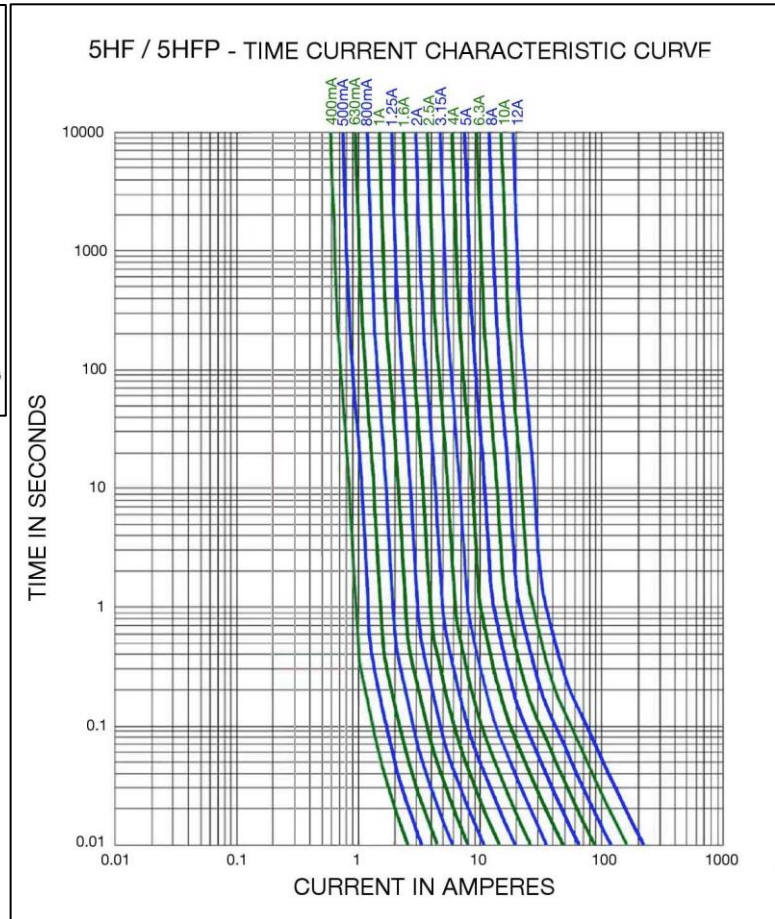
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Temperature Derating Curve

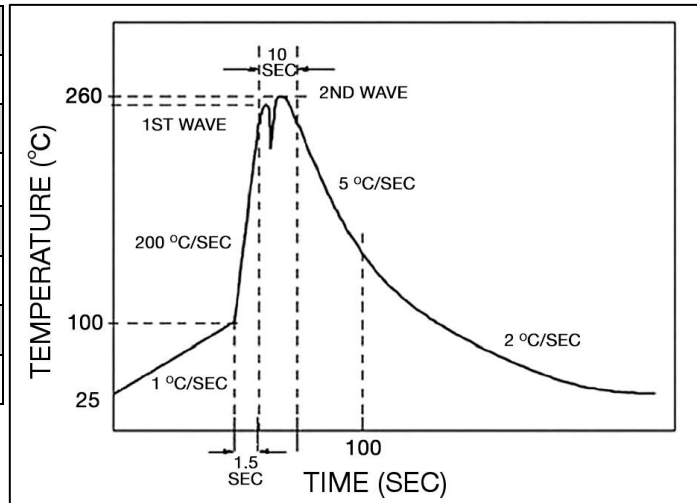


Average Time Current Curve



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.



Type 5HF / 5HFP

Fuse FGNO Explanation

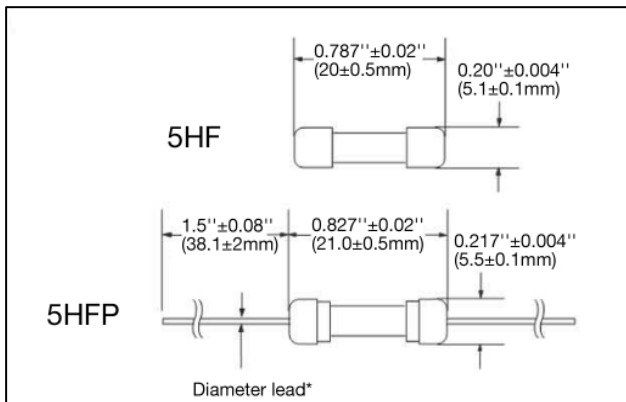
0650 R [XXXX] -XX

0650R=5HF/5HFP; [XXXX]=Ampere Rating; XX=See Ordering Information as below

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]
4/10	.400	400	0400
1/2	.500	500	0500
	.630	630	0630
8/10	.800	800	0800

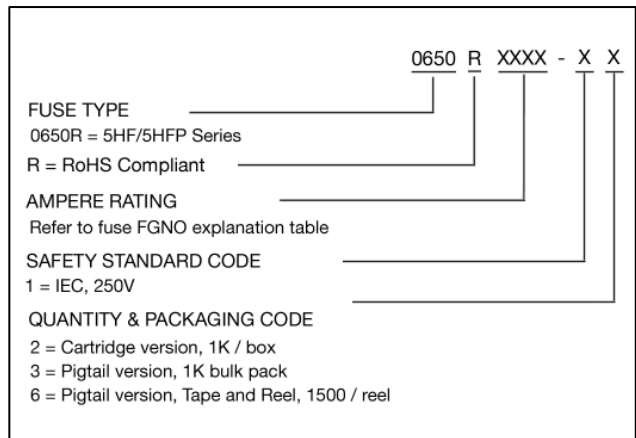
Fraction	Decimal	Amps	Bel FGNO[XXXX]
	1.0	1	1000
1-1/4	1.25	1.25	1250
	1.60	1.6	1600
	2.0	2	2000
2-1/2	2.5	2.5	2500
	3.15	3.15	3150
	4.0	4	4000
	5.0	5	5000
	6.3	6.3	6300
	8.0	8	8000
		10	9100
		12	9120

Mechanical Dimensions



*Ratings 6.3A and less have 0.032" ± 0.002" diameter lead;
 *Ratings 8A and above have 0.039" ± 0.002" 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	EIA-296-F	1500	16	10mm Pitch and 63mm



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