

RoHS

**bel**

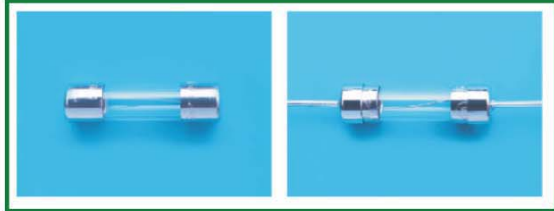
5MF Apr2013D

**Type 5MF / 5MFP**  
Fast Blow Fuse Series

5 x 20mm Glass Tube  
RoHS 6 Compliant

HF  5MF / 5MFP Series, 5 x 20mm Fast Blow Fuse



**Description**

5x20mm Fast Blow, glass tube body cartridge fuse designed, approved and complied with UL and CSA standard 248-14.

**Features**

- Meet UL and CSA standard 248-14
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS6 compliant
- Halogen Free
- Leadfree

**Applications**

Provide individual protection for components or internal circuits.

- Power Supplies
- Battery charger
- Monitor
- Adapter





LEAD FREE = 

HALOGEN FREE = 

**Electrical Characteristics (UL / CSA STD.248-14)**

Testing current	Blow Time	
	Minimum	Maximum
100%	4 Hrs.	N/A
135%	N/A	1 Hr
200%	N/A	5 Sec

**Safety Agency Approvals**

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	AMPERE RANGE / VOLT @ I.R.ABILITY
	E20624	80mA - 3A / 250V AC @200A 80mA - 8A / 125V AC @10,000A
	LR39772	
	JET 1037-31003-1010 JET 1037-31003-1011	1A - 5A / 125V AC @500A
	JET 1037-31003-1007	>5A - 15A / 125V AC @300A
		80mA - 8A / 125V AC @10,000A

Specifications subject to change without notice

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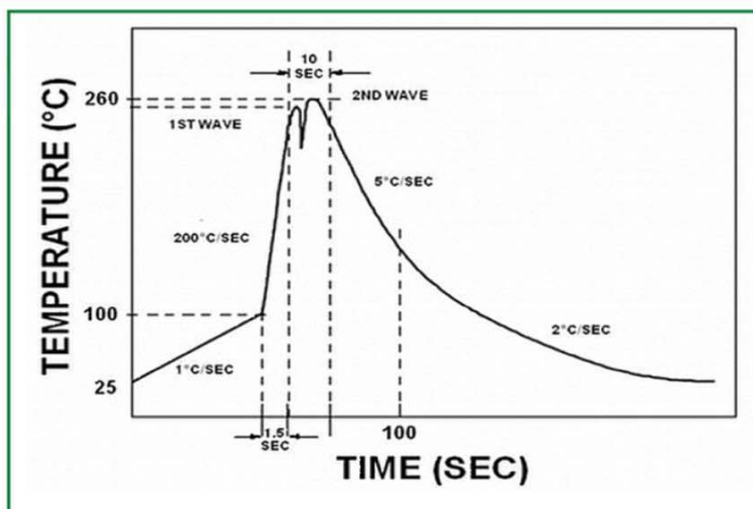
## Electrical Specifications

Catalog Number	Ampere Rating	Typical Cold Resistance (ohm)	Volt-drop @ 100% In (Volt) Max.	Voltage Rating (V)	Interrupting Rating	Melting I <sup>2</sup> T <10 m Sec (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 US	SP	PS E	CE	
5MF (P) 80-R	80mA	42.5	5.10	250	80mA - 3A / 250V AC @200A	0.0004	0.0004	0.32	Y	Y		Y	
5MF (P) 100-R	100mA	6.95	2.63	250		0.0009	0.0008	0.35	Y	Y		Y	
5MF (P) 125-R	125mA	6.92	3.65	250		0.0017	0.0015	0.60	Y	Y		Y	
5MF (P) 200-R	200mA	2.97	2.58	250		0.007	0.006	0.72	Y	Y		Y	
5MF (P) 250-R	250mA	1.47	0.99	250		0.016	0.014	0.25	Y	Y		Y	
5MF (P) 300-R	300mA	1.18	1.07	250		0.020	0.019	0.39	Y	Y		Y	
5MF (P) 350-R	350mA	0.92	1.06	250		0.038	0.032	0.36	Y	Y		Y	
5MF (P) 400-R	400mA	0.65	0.74	250		0.080	0.084	0.20	Y	Y		Y	
5MF (P) 500-R	500mA	0.49	0.78	250		0.122	0.118	0.33	Y	Y		Y	
5MF (P) 600-R	600mA	0.394	0.77	250		0.195	0.195	0.44	Y	Y		Y	
5MF (P) 700-R	700mA	0.305	0.73	250		0.265	0.267	0.65	Y	Y		Y	
5MF (P) 800-R	800mA	0.243	0.61	250		0.40	0.40	0.54	Y	Y		Y	
5MF (P) 1-R	1A	0.118	0.22	250		80mA - 8A / 125V AC @10,000A	0.88	0.85	0.26	Y	Y	Y	Y
5MF (P) 1.25-R	1.25A	0.085	0.21	250			1.5	1.5	0.31	Y	Y	Y	Y
5MF (P) 1.5-R	1.5A	0.067	0.17	250			2.6	2.6	0.36	Y	Y	Y	Y
5MF (P) 2-R	2A	0.046	0.16	250			4.4	4.5	0.44	Y	Y	Y	Y
5MF (P) 2.5-R	2.5A	0.037	0.16	250			7.6	7.8	0.52	Y	Y	Y	Y
5MF (P) 3-R	3A	0.030	0.17	250			13	14	0.59	Y	Y	Y	Y
5MF (P) 3.5-R	3.5A	0.025	0.15	125			17	18	0.65	Y	Y	Y	Y
5MF (P) 4-R	4A	0.019	0.14	125			22	24	0.72	Y	Y	Y	Y
5MF (P) 5-R	5A	0.016	0.15	125	38		41	0.84	Y	Y	Y	Y	
5MF (P) 6-R	6A	0.012	0.13	125	65		72	0.96	Y	Y	Y	Y	
5MF (P) 7-R	7A	0.011	0.13	125	88		97	1.10	Y	Y	Y	Y	
5MF (P) 8-R	8A	0.009	0.13	125	113		126	1.23	Y	Y	Y	Y	

Consult manufacturer for other ratings

## 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 T <sub>p</sub>	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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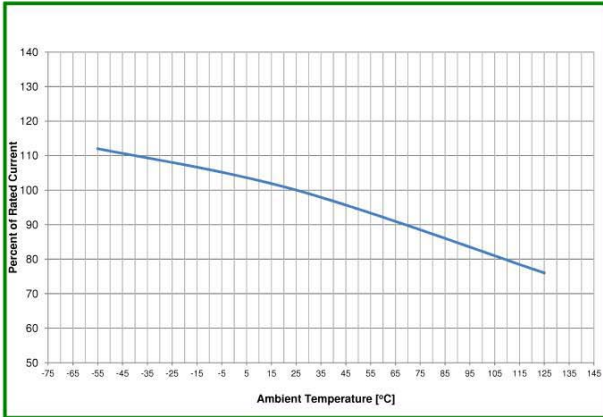
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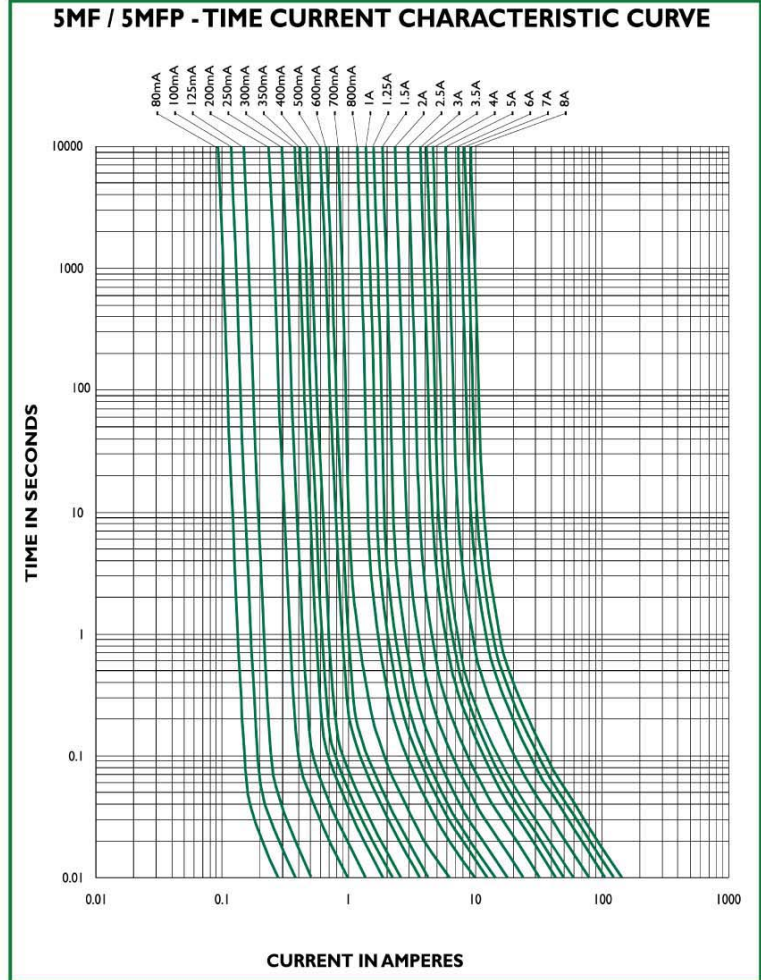
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5MF Apr2013D

Temperature Derating Curve



Average Time Current Curve



Environmental Specifications

<b>Shock Resistance</b>	MIL-STD-202G, Method 213B, Test Condition I (100 G's peak for 6 milliseconds; Sawtooth Waveform)
<b>Vibration Resistance</b>	MIL-STD-202G, Method 201A (10-55 Hz, 0.06 inch, total excursion).
<b>Salt Spray Resistance</b>	MIL-STD-202G, Method 101E, Test condition B (48 hrs).
<b>Insulation Resistance</b>	MIL-STD-202G, Method 302, Test Condition A (After Opening) 10,000 ohms minimum.
<b>Solderability</b>	MIL-STD-202G, Method 208H
<b>Resistance to solder Heat</b>	MIL-STD-202G Method 210F, Test Condition B. (260+/-5°C, 10+/- 1 sec)
<b>Thermal Shock</b>	MIL-STD-202G, Method 107G, Test Condition B (-65°C to +125°C).
<b>Operating Temperature</b>	-55°C to +125°C
<b>Terminal Strength</b>	IEC-68-2-21

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5MF Apr2013D

## Physical Specifications

<b>Materials</b>	Body : Glass
	Cap : Nickel Plated Brass Caps
	Leads: Matte Tin Plated Copper
<b>Marking</b>	On Fuse:
	"bel", "5MF", "Current Rating", "Voltage Rating",
	"Appropriate Safety Logos", "✓" (RoHS 6 compliant)
	On label:
	"bel", "5MF", or "5MFP", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "♻️" (China RoHS compliant).

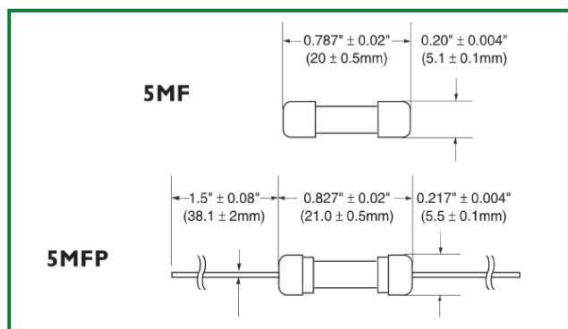
## Fuse FGNO Explanation

06XX-XXXX-XX, [XXXX]=Ampere Rating

Fraction	Decimal	Milliamps	Bel FGNO(XXXX)
1/32	0.032	32	0032
1/25	.040	40	0040
1/20	.050	50	0050
1/16	.063	63	0063
8/100	.080	80	0080
1/10	.100	100	0100
1/8	.125	125	0125
15/100	.150	150	0150
	.160	160	0160
2/10	.200	200	0200
1/4	.250	250	0250
3/10	.300	300	0300
	.315	315	0315
3/8	.375	375	0375
4/10	.400	400	0400
1/2	.500	500	0500
6/10	.600	600	0600
	.630	630	0630
7/10	.700	700	0700
3/4	.750	750	0750
8/10	.800	800	0800

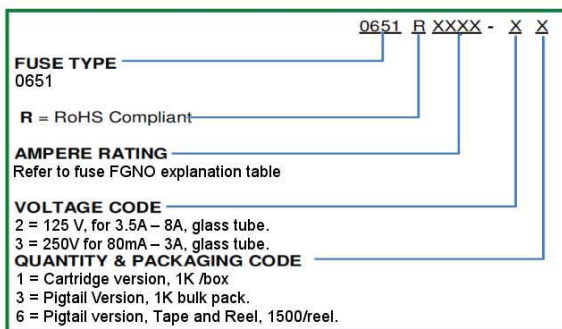
Fraction	Decimal	Amps	Bel FGNO(XXXX)
	1.0	1	1000
1-1/4	1.25	1.25	1250
1-1/2	1.50	1.5	1500
	1.60	1.6	1600
	2.0	2	2000
2-1/4	2.25	2.25	2250
2-1/2	2.5	2.5	2500
	3.0	3	3000
	3.15	3.15	3150
3-1/2	3.5	3.5	3500
	4.0	4	4000
	5.0	5	5000
	6.0	6	6000
	6.3	6.3	6300
	7.0	7	7000
7-1/2	7.5	7.5	7500
	8.0	8	8000
		10	9100
		12	9120
		15	9150
		20	9200
		25	9250
		30	9300

## Mechanical Dimensions



\* Ratings 5A and less have 0.032" diameter lead;  
Ratings 6A and above have 0.040" diameter lead.

## Ordering Information



Specifications subject to change without notice

## Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	31 / 21	N/A
Bulk (Pigtail Type)	N/A	1000	33 / 23	N/A
Tape & Reel, 10 mm Pitch	EIA-296-F	1500	73 / 26	63

## CORPORATE OFFICE

**Bel Fuse Inc.**  
206 Van Vorst Street  
Jersey City, NJ 07302  
Tel 201-432-0463  
Fax 201-432-9542  
E-Mail: belfuse@belf.com  
Website: www.belfuse.com

## FAR EAST OFFICE

**Bel Fuse Ltd.**  
8/F Luk Hop Industrial Building  
8 Luk Hop Street  
San Po Kong  
Kowloon, Hong Kong  
Tel 852-2328-5515  
Fax 852-2352-3706

## EUROPE OFFICE

**Bel Fuse Europe Ltd.**  
Preston Technology Management Centre  
Marsh Lane, Suite F15  
Preston, Lancashire, PR1 8UQ  
United Kingdom  
Tel 44-1772-556601  
Fax 44-1772-561008

## EUROPE

**Bel Stewart GmbH**  
Industriestrasse 20  
61381 Friedrichsdorf  
Germany  
Tel 49-6172-9552-0  
Fax 49-6172-9552-40