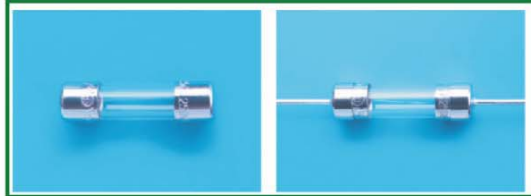


## Type 5SF / 5SFP

### Quick-acting Fuse Series (Low Breaking Capacity)

5 x 20mm Glass Tube  
RoHS 6 Compliant

HF 5SF / 5SFP Series, 5 x 20mm Quick-acting Fuse



#### Description

5x20mm quick-acting, low breaking capacity, glass tube body cartridge fuse designed, approved and complied with IEC 60127-2, standard sheet 2.

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

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 100mA	1	30	10	0.5	3	100	20			
125mA to 6.3A	1	30	50	2	10	300	20			
8A to 10A	1	30	50	2	10	400	40			
	hr.	min.	ms	sec	ms	ms	ms			

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

#### Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	AMPERE RANGE / VOLT @ I.R. ABILITY
	1021772	80mA - 6.3A / 250V AC @35A or 10 In whichever is greater
	40000509	
	EM234	
	E20624	80mA - 10A / 250V AC @35A or 10 In whichever is greater
	LR39772	
	2003010207030263	80mA - 6.3A / 250V AC @35A or 10 In whichever is greater

Specifications subject to change without notice

#### Features

- Meet IEC standard 60127-2, Sheet 2
- 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 =

# Type 5SF / 5SFP

## Quick-acting Fuse Series (Low Breaking Capacity)

5 x 20mm Glass Tube  
RoHS 6 Compliant  
HF Pb

# bel

5SF Apr2013D

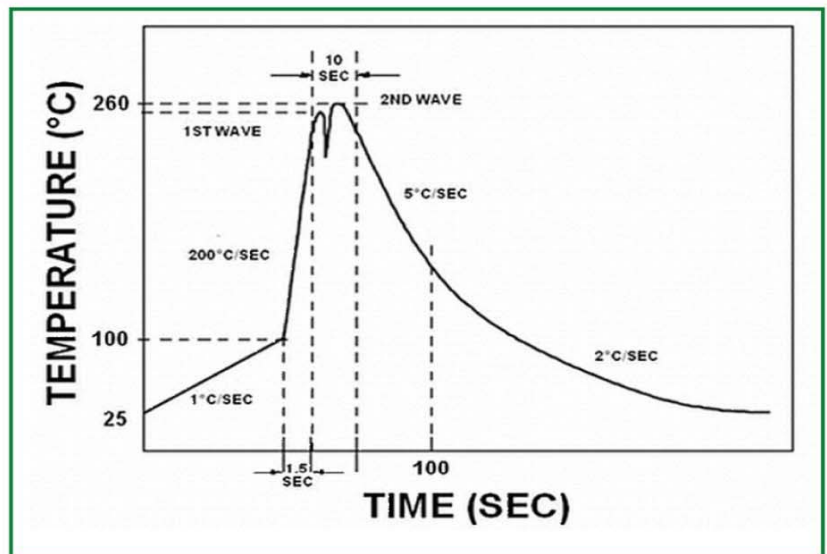
### Electrical Specifications

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	CSA	CCC	S	DVE	TP	CE
5SF (P) 80-R	80mA	7.4	0.93	250	250V AC @35A or 10 In whichever is greater	0.003	0.003	0.39	Y	Y	Y	Y	Y	Y	Y
5SF (P) 100-R	100mA	4.9	0.89	250		0.005	0.005	0.44	Y	Y	Y	Y	Y	Y	Y
5SF (P) 125-R	125mA	3.6	0.84	250		0.009	0.008	0.50	Y	Y	Y	Y		Y	Y
5SF (P) 160-R	160mA	2.25	0.61	250		0.017	0.015	0.57	Y	Y	Y	Y	Y	Y	Y
5SF (P) 200-R	200mA	1.10	0.33	250		0.033	0.028	0.64	Y	Y	Y	Y	Y	Y	Y
5SF (P) 250-R	250mA	0.84	0.33	250		0.05	0.05	0.73	Y	Y	Y	Y	Y	Y	Y
5SF (P) 315-R	315mA	0.58	0.32	250		0.10	0.09	0.83	Y	Y	Y	Y	Y	Y	Y
5SF (P) 400-R	400mA	0.47	0.31	250		0.17	0.17	0.94	Y	Y	Y	Y	Y	Y	Y
5SF (P) 500-R	500mA	0.31	0.27	250		0.40	0.40	0.12	Y	Y	Y	Y	Y	Y	Y
5SF (P) 630-R	630mA	0.152	0.13	250		0.64	0.65	0.15	Y	Y	Y	Y	Y	Y	Y
5SF (P) 800-R	800mA	0.112	0.13	250		1.0	1.0	0.20	Y	Y	Y	Y	Y	Y	Y
5SF (P) 1-R	1A	0.088	0.13	250		1.6	1.7	0.27	Y	Y	Y	Y	Y	Y	Y
5SF (P) 1.25-R	1.25A	0.065	0.12	250		2.5	2.7	0.35	Y	Y	Y	Y	Y	Y	Y
5SF (P) 1.6-R	1.6A	0.050	0.11	250		4.0	4.4	0.47	Y	Y	Y	Y	Y	Y	Y
5SF (P) 2-R	2A	0.034	0.10	250		6	7	0.62	Y	Y	Y	Y	Y	Y	Y
5SF (P) 2.5-R	2.5A	0.026	0.10	250		10	11	0.82	Y	Y	Y	Y	Y	Y	Y
5SF (P) 3.15-R	3.15A	0.022	0.10	250		16	18	1.08	Y	Y	Y	Y	Y	Y	Y
5SF (P) 4-R	4A	0.017	0.10	250		26	30	1.43	Y	Y	Y	Y	Y	Y	Y
5SF (P) 5-R	5A	0.013	0.10	250		41	48	1.89	Y	Y	Y	Y	Y	Y	Y
5SF (P) 6.3-R	6.3A	0.010	0.10	250		65	74	2.50	Y	Y	Y	Y	Y	Y	Y
5SF (P) 8-R	8A	0.007	0.08	250	103	119	3.30	Y	Y					Y	
5SF (P) 10-R	10A	0.006	0.08	250	163	192	4.37	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.



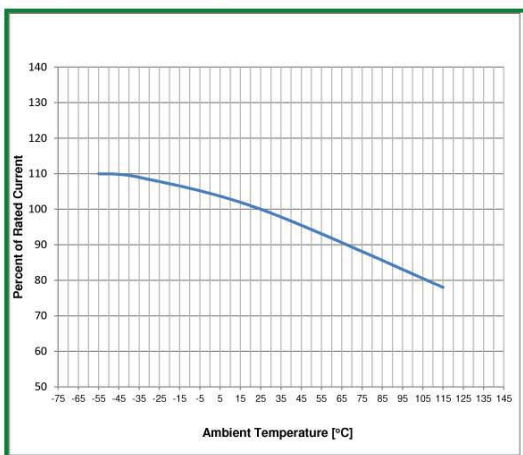
**Type 5SF / 5SFP**  
**Quick Acting Fuse Series (Low Breaking Capacity)**

5 x 20mm Glass Tube  
 RoHS 6 Compliant  
 HF PB



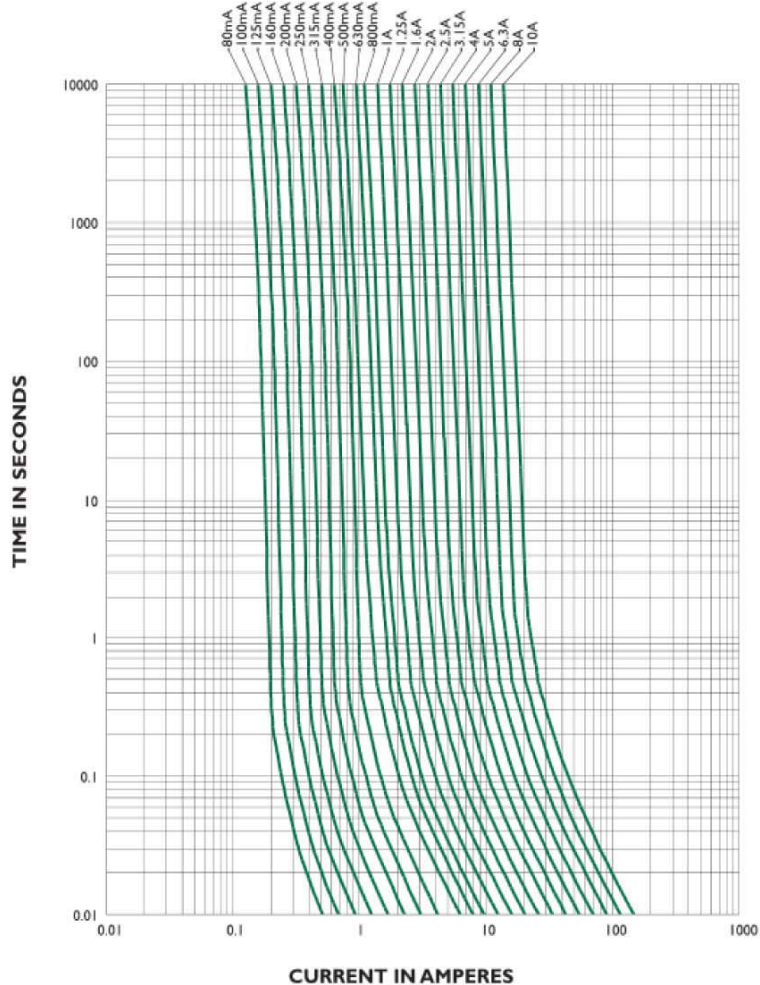
5SF Apr2013C

**Temperature Derating Curve**



**Average Time Current Curve**

**5SF / 5SFP - TIME CURRENT CHARACTERISTIC 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 B (After Opening) 100,000 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



# Type 5SF / 5SFP

Quick - acting Fuse Series (Low Breaking Capacity)

5 x 20mm Glass Tube  
RoHS 6 Compliant



5SF Apr2013D

## Physical Specifications

<b>Materials</b>	Body : Glass
	Cap : Nickel Plated Brass Caps
	Leads: Matte Tin Plated Copper
<b>Marking</b>	On Fuse:
	"bel", "F", "Current Rating", "L", "250V",
	"Appropriate Safety Logos", " (RoHS 6 compliant)
	On label:
	"bel", "5SF", or "5SFP", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and " (China RoHS compliant).

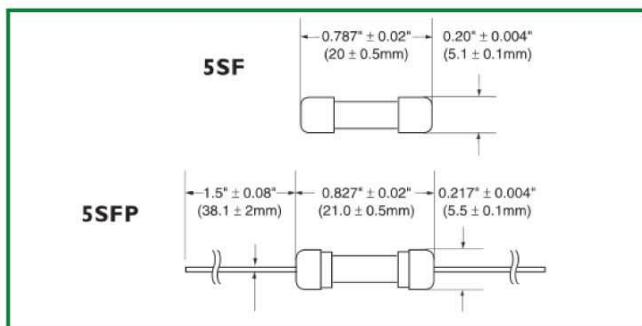
## Fuse FGNO Explanation

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

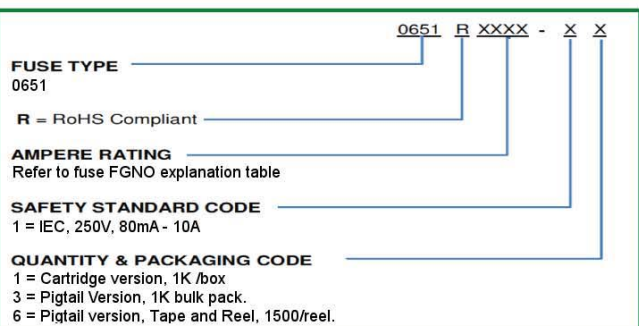
Fraction	Decimal	Milliamps	Bel FGNO[XXXX]
1/32	.032	32	0032
1/25	.040	40	0040
1/20	.050	50	0050
1/16	.063	63	0063
8/100	.080	80	0080
1/10	.100	100	0100
1/8	.125	125	0125
15/100	.150	150	0150
	.160	160	0160
2/10	.200	200	0200
1/4	.250	250	0250
3/10	.300	300	0300
	.315	315	0315
3/8	.375	375	0375
4/10	.400	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



## Ordering Information



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

Specifications subject to change without notice

## Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	11	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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