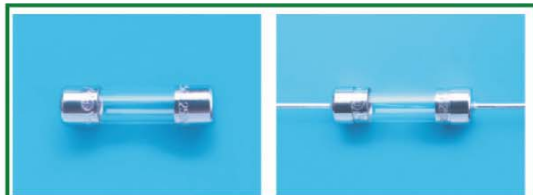


Type 5SF / 5SFP

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	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

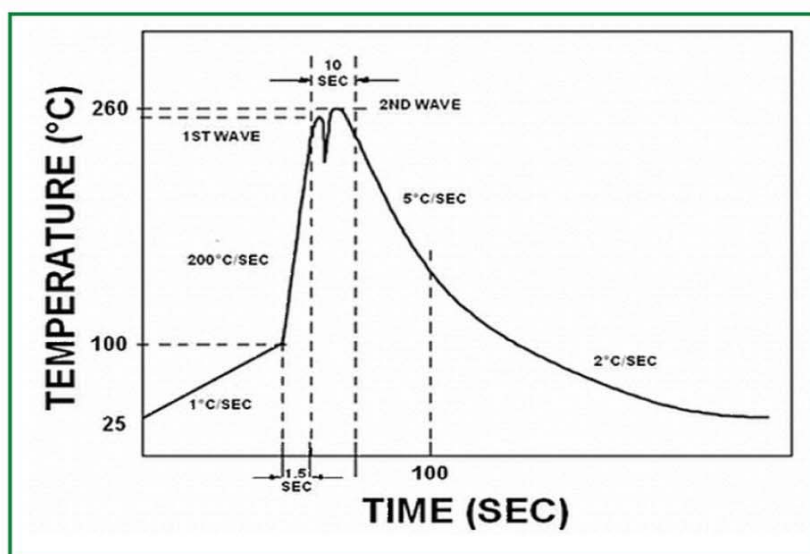
Electrical Specifications

Catalog Number	Ampere Rating	Typical Cold Resistance (ohm)	Volt-drop @ 100% In (Volt) Max.	Voltage Rating (V)	Interrupting Rating	Melting I2T <10 m Sec (A2 Sec)	Melting I2T @ 10 In (A2 Sec)	Maximum Power Dissipation (W)	Agency Approvals						
															
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 _p	260°C
Time within +0 °C / -5°C of actual peak temperature	10 seconds
Ramp-down rate	5 °C / second max.



Type 5SF / 5SFP

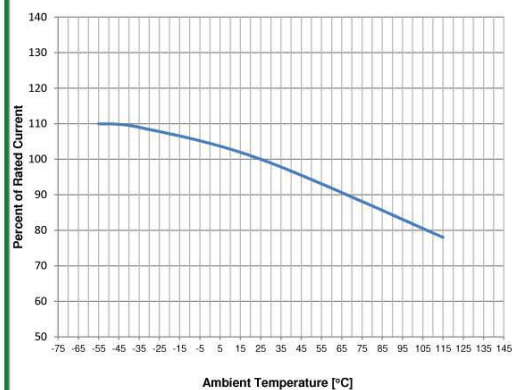
Quick Acting Fuse Series (Low Breaking Capacity)

5 x 20mm Glass Tube
RoHS 6 Compliant
HF PB

bel

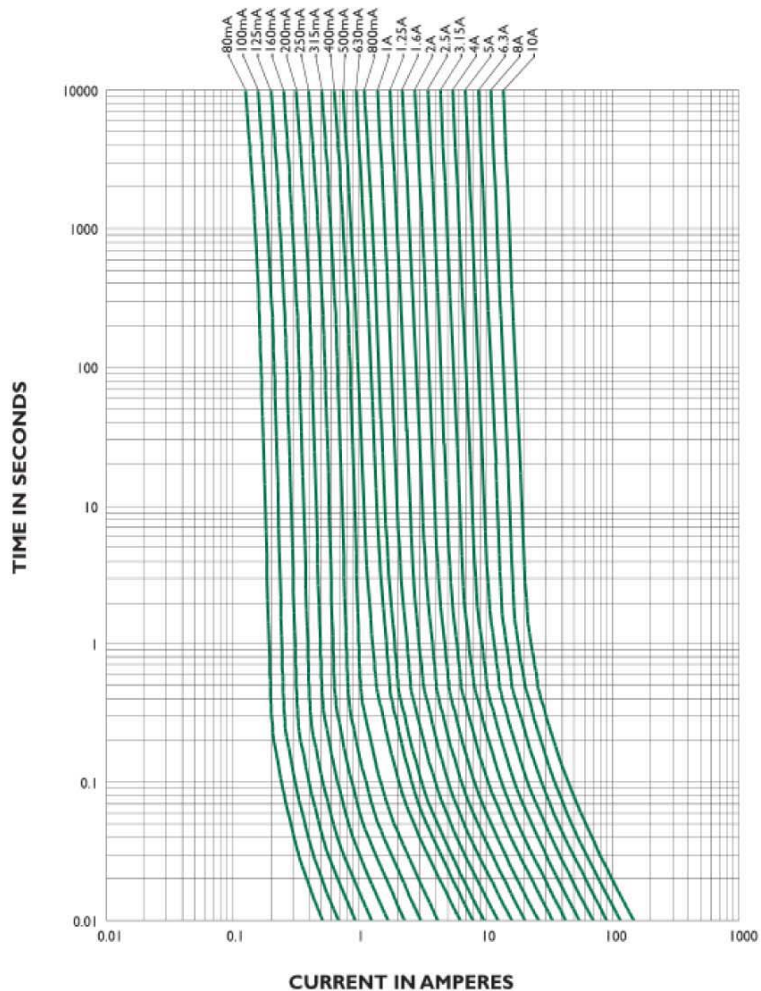
5SF Apr2013C

Temperature Derating Curve



Average Time Current Curve

5SF / 5SFP - TIME CURRENT CHARACTERISTIC CURVE



Environmental Specifications

Shock Resistance	MIL-STD-202G, Method 213B, Test Condition I (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

Type 5SF / 5SFP

Quick - acting Fuse Series (Low Breaking Capacity)

5 x 20mm Glass Tube

RoHS 6 Compliant



5SF Apr2013D

Physical Specifications

Materials	Body : Glass
	Cap : Nickel Plated Brass Caps
	Leads: Matte Tin Plated Copper
Marking	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 "M", "CE" (China RoHS compliant).

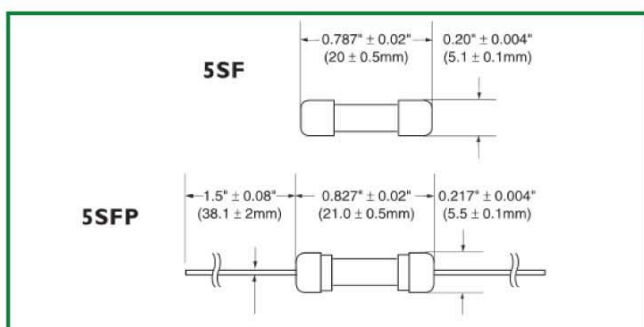
Fuse FGNO Explanation

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



Ordering Information

FUSE TYPE

0651

R = RoHS Compliant

AMPERE RATING
Refer to fuse FGNO explanation table

SAFETY STANDARD CODE
1 = IEC, 250V, 80mA - 10A

QUANTITY & PACKAGING CODE
1 = Cartridge version, 1K /box
3 = Pigtail Version, 1K bulk pack.
6 = Pigtail version, Tape and Reel, 1500/reel.

* 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

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