

Type SSQ

Square Ceramic Surface Mount Quick Acting Fuse

HF **Pb** SSQ Series - 2410 Size

RoHS 6 Compliant

Features

- Quick Acting
- Small size, 2410 SMD
- Wide range of current rating from 100mA to 15A
- Wide operating temperature range
- Tape & Reel for auto-insert SMD process
- Compatible with 260 °C, IR Pb-free solder process
- RoHS 6 compliant (MSL = 1)
- Halogen Free
- Leadfree

Applications

- Notebook
- LCD monitor
- PC computer
- Office electronic equipment
- Industrial equipment
- Medical equipment
- POE, POE+
- LCD / LED monitor
- Power supply
- LCD / LED TV

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



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

Testing Current	Blow Time	
	Minimum	Maximum
100%	4 Hrs.	N/A
200%	N/A	5 Sec

Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
SP	LR39772		100mA - 7A / 125V @50A AC
UL	E20624	100mA - 7A / 125V AC 125V DC 7.1A - 12A / 125V AC 86V DC 15A / 86V DC	100mA - 7A / 125V @ 50A AC 86V @ 10,000A DC 125V @ 300A DC 7.1A - 12A / 125V @ 50A AC 86V @ 10,000A DC
cUL	E20624		15A / 86V @ 10,000A DC

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

Physical Specifications

Materials	Body : Ceramic
	Terminations : Palladium plated Brass Caps
Marking	On Fuse :
	"Current Rating" in black color, "bel" stamped in end caps.
	On Label :
	"bel", "SSQ", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "RoHS", "CE" (China RoHS compliant).

Specifications subject to change without notice



Bel Fuse Inc.
206 Van Vorst Street
Jersey City, NJ 07302 USA

+1 201.432.0463
techhelp@belf.com
belfuse.com

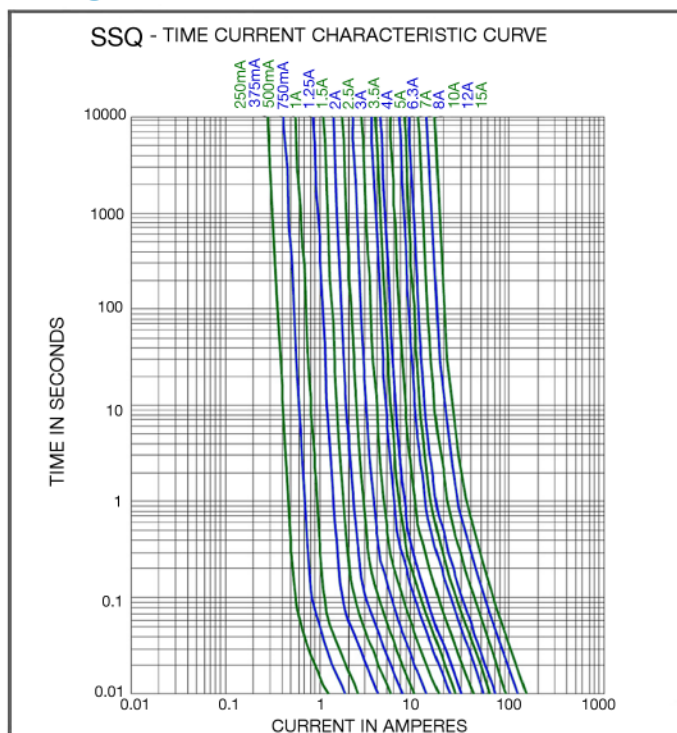
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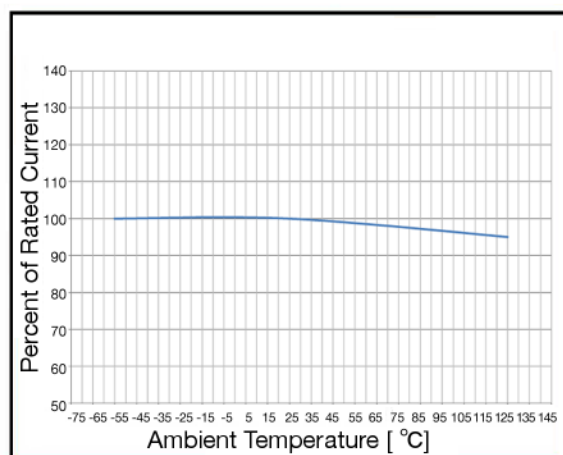
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Average Time Current Curve



Temperature Derating Curve



Electrical Specifications

Catalog Number	Ampere Rating (A)	Typical Cold Resistance (ohm)	Volt-drop @100% In (Volt) max.	Voltage and Interrupting Ratings	Melting I ² T <10 m Sec (A ² Sec)	Melting I ² T @10 In (A ² Sec)	Maximum Power Dissipation (W)	Agency Approvals		
										
SSQ 250	250mA	0.560	0.30	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.02	0.01	0.07	Y	Y	
SSQ 375	375mA	0.335	0.27		0.04	0.03	0.09	Y	Y	
SSQ 500	500mA	0.235	0.26		0.07	0.06	0.11	Y	Y	
SSQ 750	750mA	0.131	0.19		0.11	0.07	0.13	Y	Y	
SSQ 1	1A	0.081	0.14		0.19	0.14	0.17	Y	Y	
SSQ 1.25	1.25A	0.065	0.14		0.33	0.24	0.20	Y	Y	
SSQ 1.5	1.5A	0.056	0.14		0.57	0.41	0.23	Y	Y	
SSQ 2	2A	0.039	0.13		1.0	0.8	0.30	Y	Y	
SSQ 2.5	2.5A	0.031	0.13		1.7	1.4	0.36	Y	Y	
SSQ 3	3A	0.025	0.13		3.0	2.4	0.43	Y	Y	
SSQ 3.5	3.5A	0.024	0.13		3.9	3.3	0.47	Y	Y	
SSQ 4	4A	0.019	0.13		5.1	4.4	0.51	Y	Y	
SSQ 5	5A	0.013	0.12		8.8	7.8	0.62	Y	Y	
SSQ 6.3	6.3A	0.011	0.12		15	14	0.74	Y	Y	
SSQ 7	7A	0.009	0.110		20	19	0.81	Y	Y	
SSQ 8	8A	0.008	0.110		26	25	0.89	Y		
SSQ 10	10A	0.007	0.110		46	44	1.07	Y		
SSQ 12	12A	0.005	0.100		70	69	1.24	Y		
SSQ15	15A	0.004	0.100		121	124	1.54			Y

Consult manufacturer for other ratings

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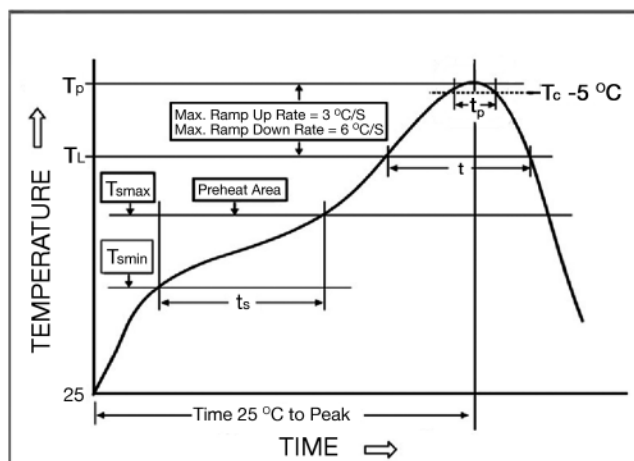
RoHS 6 Compliant

Environmental Specifications

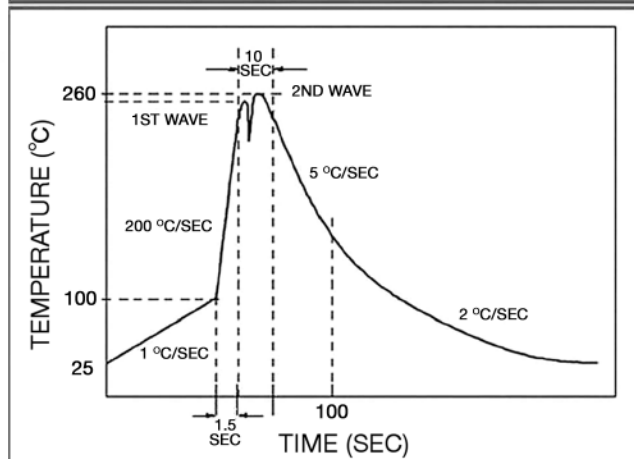
Shock Resistance	MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform)
Vibration Resistance	MIL-STD-202G, Method 201A(10-55 Hz,0.06 inch, total excursion).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B(48 hrs).
Insulation Resistance	MIL-STD-202G, Method 302, Test Condition A (After Opening) 10,000 ohms minimum.
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition C.Top Side(260 °C, 20 sec) MIL-STD-202G, Method 210F, Test Condition D.Bottom Side(260 °C,10 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65 °C to +125 °C).
Operating Temperature	-55 °C to +125 °C
Moisture Sensitivity Level	1 (According to IPC J-Std-020)

Soldering Parameters

IR Reflow Profile (IPC/JEDEC J-STD-020D)	
Preheat & Soak	
Temperature min (T _{min})	150 °C
Temperature max (T _{max})	200 °C
Time (T _{min} to T _{max}) (t _s)	60 - 120 seconds
Average ramp-up rate (T _{max} to T _p)	3 °C/second max.
Liquidous temperature (T _L)	217 °C
Time at liquidous (t _L)	60 - 150 seconds
Peak temperature (T _p)	260 °C max
Time (t _p) within 5 °C of the specified classification temperature (T _c)	30 seconds
Average ramp-down rate (T _p to T _{max})	6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.



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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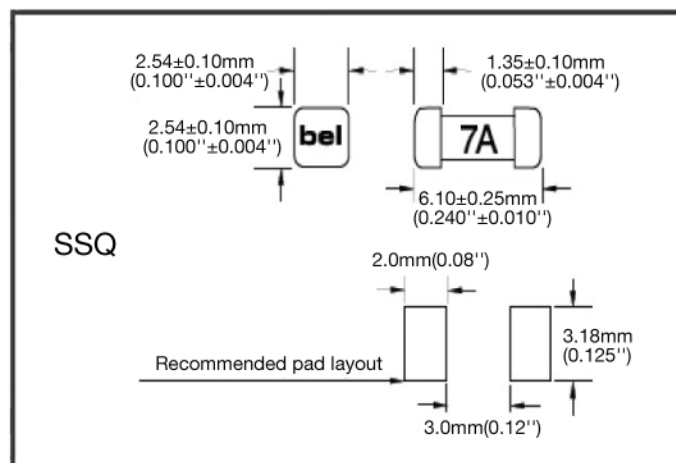
Fuse FGNO Explanation

0679 - [XXXX] - XX

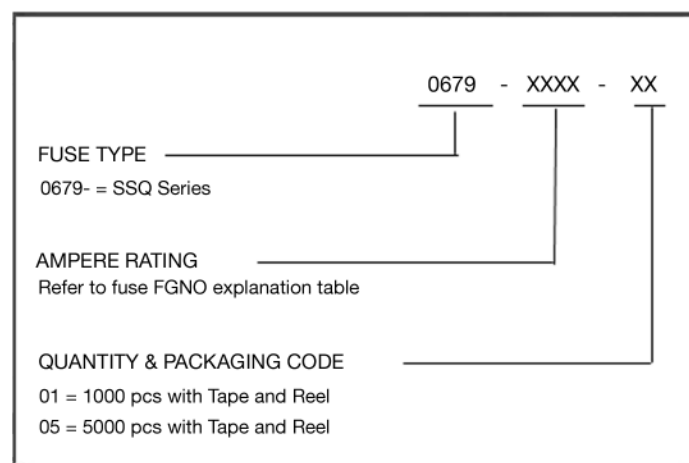
0679=SSQ; [XXXX]=Ampere Rating; XX=See Ordering Information as below

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]	Fraction	Decimal	Amps	Bel FGNO[XXXX]
1/4	0.250	250	0250		1.0	1	1000
3/8	.375	375	0375	1-1/4	1.25	1.25	1250
1/2	.500	500	0500	1-1/2	1.50	1.5	1500
3/4	.750	750	0750		2.0	2	2000
				2-1/2	2.5	2.5	2500
					3.0	3	3000
				3-1/2	3.5	3.5	3500
					4.0	4	4000
					5.0	5	5000
					6.3	6.3	6300
					7.0	7	7000
					8.0	8	8000
						10	9100
						12	9120
						15	9150

Mechanical Dimensions



Ordering Information



Packaging

Packaging Tape & Reel	Packaging Specification	Quantity	Quantity & Packaging Code
12 mm wide tape with 13 inches Diameter reel	EIA Standard 481-E	5000	05
12 mm wide tape with 7 inches Diameter reel	EIA Standard 481-E	1000	01

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