



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Type C2Q

## Surface Mount Very Fast-Acting Chip Fuse

**HF** **Pb** C2Q Series - 0603 Size

RoHS 6 Compliant

### Features

- Fast Acting
- Small size, 0603 SMD
- Current rating from 250mA to 5A
- Wide operating temperature range from -55 °C to 125 °C
- Tape and Reel for automatic SMD placement
- Compatible with 260°C IR Pb-free and wave soldering 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
- DC-DC Converter



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

### Electrical Characteristics (UL STD. 248-14)

Testing Current	Blow Time	
	Minimum	Maximum
100%	4 Hrs.	N/A
200%	N/A	5 Sec
300%	N/A	0.2 Sec

### Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	E20624	250mA - 4A / 32V AC 63V DC	250mA - 4A / 32V AC @ 35A 63V DC @ 50A
		5A / 32V AC & DC	5A / 32V AC & DC @ 50A

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

### Physical Specifications

Materials	Body : Ceramic Substrate
	Terminations : Ag / Ni / Sn (100% Lead-free)
	Element Cover Coating : Lead-free Glass
Marking	On Fuse :
	None
	On Label :
	"bel", "C2Q", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and  ,  (China RoHS compliant).

Specifications subject to change without notice



Bel Fuse Inc. +1 201.432.0463  
 206 Van Vorst Street Bel.US.CS@belf.com  
 Jersey City, NJ 07302 USA [belfuse.com/circuit-protection](http://belfuse.com/circuit-protection)

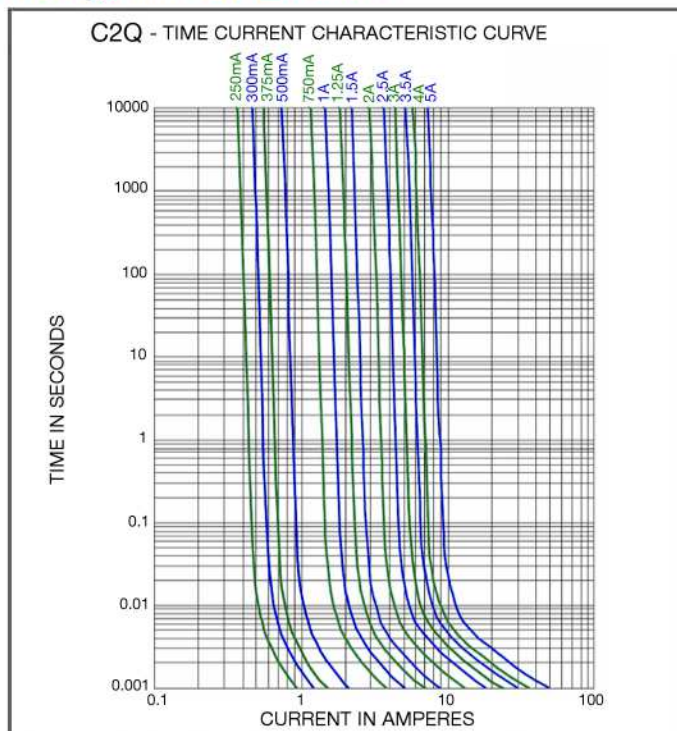
# Type C2Q

## Surface Mount Very Fast-Acting Chip Fuse

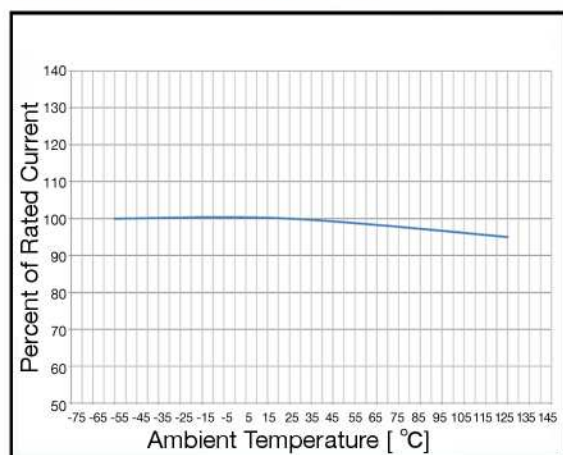
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### Average Time Current Curve



### Temperature Derating Curve



### Electrical Specifications

Catalog Number	Ampere Rating (A)	Nominal Cold Resistance (ohm)	Nominal Volt-drop @100% In (Volt)	Voltage and Interrupting Ratings	Nominal Melting I <sup>2</sup> T @10 In (A <sup>2</sup> Sec)	Nominal Power Dissipation @100% In (W)	Agency Approvals
							
C2Q 250	250mA	0.77	0.243	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.00001	0.06	Y
C2Q 300	300mA	0.54	0.217		0.00003	0.07	Y
C2Q 375	375mA	0.42	0.196		0.00004	0.07	Y
C2Q 500	500mA	0.28	0.171		0.00015	0.09	Y
C2Q 750	750mA	0.17	0.159		0.0005	0.12	Y
C2Q 1	1A	0.122	0.154		0.0010	0.15	Y
C2Q 1.25	1.25A	0.092	0.144		0.0018	0.18	Y
C2Q 1.5	1.5A	0.073	0.138		0.0025	0.21	Y
C2Q 2	2A	0.053	0.133		0.0063	0.27	Y
C2Q 2.5	2.5A	0.042	0.130		0.0074	0.33	Y
C2Q 3	3A	0.034	0.130		0.018	0.39	Y
C2Q 3.5	3.5A	0.028	0.131		0.021	0.46	Y
C2Q 4	4A	0.023	0.131		0.042	0.52	Y
C2Q 5	5A	0.019	0.131		0.055	0.66	Y

Consult manufacturer for other ratings

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## Surface Mount Very Fast-Acting Chip Fuse

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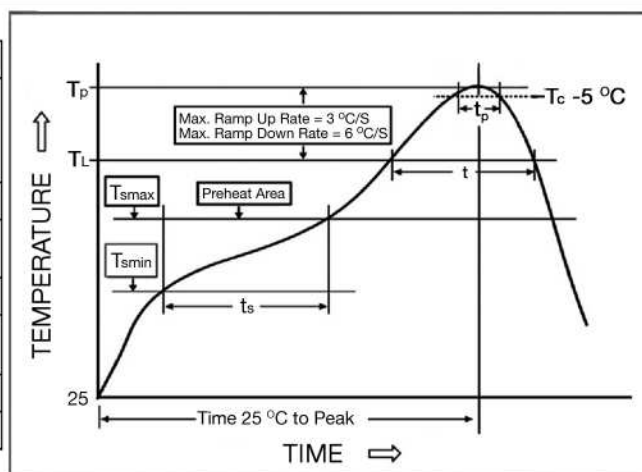
RoHS 6 Compliant

### Environmental Specifications

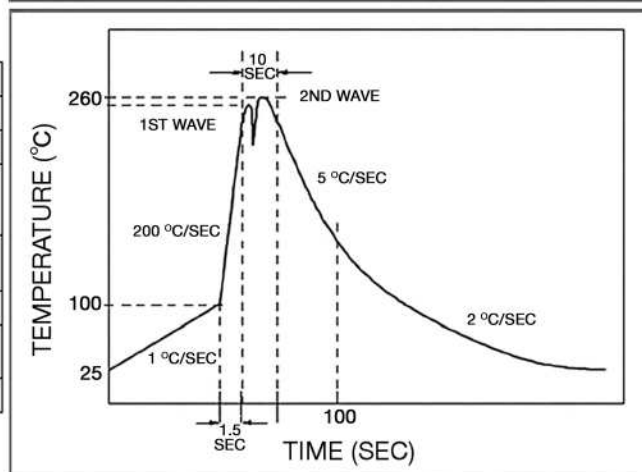
Shock Resistance	MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform)
Vibration Resistance	MIL-STD-202G, Method 201A(10-55 Hz,0.06 inch, total excursion).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B(48 hrs).
Insulation Resistance	MIL-STD-202G, 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)	
<b>Preheat &amp; Soak</b>	
Temperature min ( $T_{smin}$ )	150 °C
Temperature max ( $T_{smax}$ )	200 °C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 -120 seconds
Average ramp-up rate ( $T_{smax}$ 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 $T_{smax}$ )	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 $T_p$	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

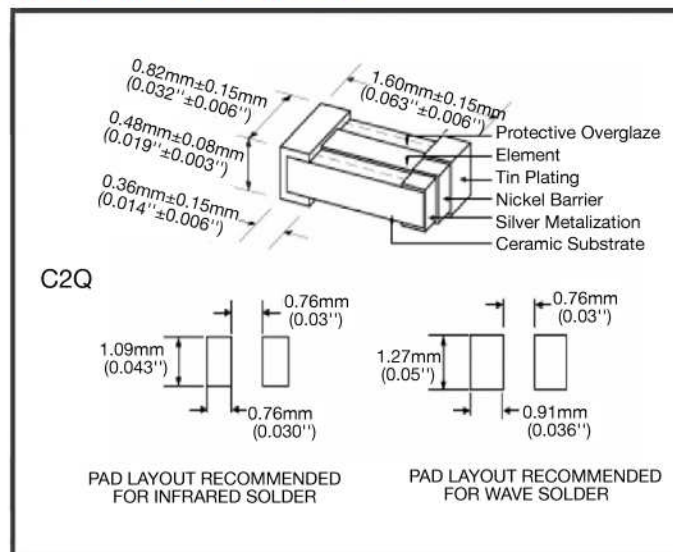
0686 - [XXXX] - XX

0686=C2Q; [XXXX]=Ampere Rating; XX=See Ordering Information as below

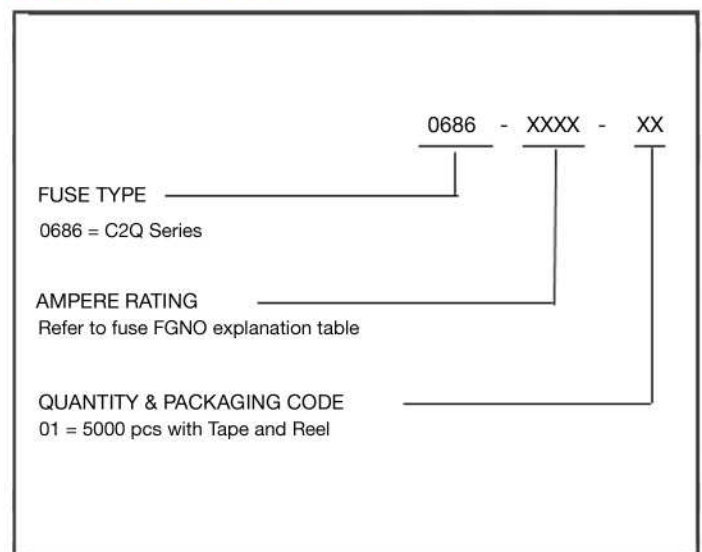
Fraction	Decimal	Milliamps	Bel FGNO[XXXX]
1/4	0.250	250	0250
3/10	.300	300	0300
3/8	.375	375	0375
1/2	.500	500	0500
3/4	.750	750	0750

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
	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

### Mechanical Dimensions



### Ordering Information



### Packaging

Packaging Tape & Reel	Packaging Specification	Quantity	Quantity & Packaging Code
8 mm wide tape with 7 inches Diameter reel	EIA Standard 481-E	5000	0686-XXXX-01

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