Type 0ABB

0603 Time Delay SMD Fuses

0ABB Series – 0603 Size RoHS Compliant

Features

- High inrush current withstand capability
- Small size, 0603 SMD
- Current rating from 1A to 8A
- Wide operating temperature range from -55℃ to 150℃
- Tape and Reel for automatic SMD placement
- Compatible with 260℃ Pb-free IR and wave soldering process
- Ceramic and glass construction
- Excellent environmental integrity
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863 (MSL = 1)
- Halogen Free and Lead Free
- AEC-Q Compliant
- Meets Bel automotive qualification*

 * - Largely based on internal AEC-Q test plan



AEC-Q Compliant

Applications

- Electronic device and Battery

LEAD FREE =

HALOGEN FREE =

Electrical Characteristics

Rated Current	1.0In	2.0In	2.5In
1A~8A	4 hour minimum	1~60 sec	5 sec maximum

Safety Agency Approvals

Safety Agency	Safety Agency Certificate	Voltage Rating (V)	Ampere Range / Volt @ I.R. ability**
	E20624	1A–8A/32V DC	1A–8A/50A@ 32V DC
** DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)			

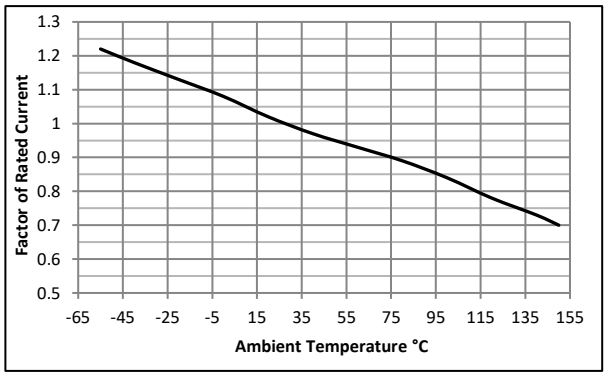
Physical Specifications

Materials	Body : Ceramic Substrate
	Terminations : Ag / Ni / Sn (100% Lead-free)
	Element Cover Coating : Lead-free Glass
Marking	On Fuse :
	Marking Code
	On Label :
	"bel", "0ABB", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and " ", " "(China RoHS compliant).

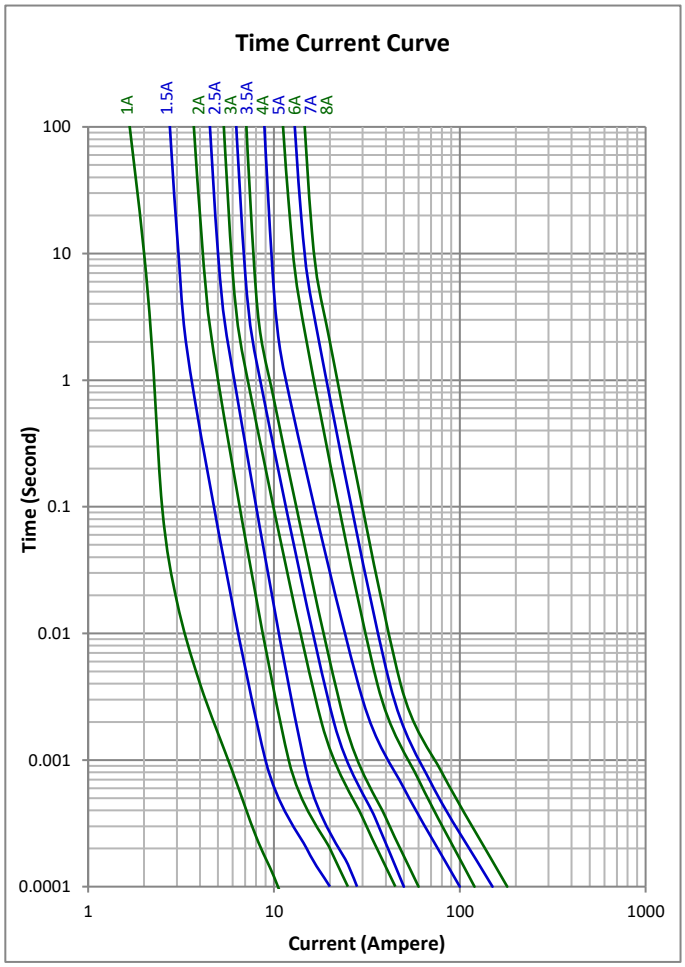
Temperature Derating Curve

Normal ambient temperature: 23±3℃

Operating temperature: -55 ~ 150℃, with proper correction factor applied



Average Time Current Curve



Electrical Specifications

Part Number	Ampere Rating	Alpha Mark	Typical Cold Resistance (mohms)	Typical Voltage Drop (mV)	Typical Pre-Arcing I²t (A²s)	Voltage and Interrupting Ratings	Agency Approvals
							c UL us
0ABB-1000-TM	1A	B	160	300	0.012	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	Y
0ABB-1500-TM	1.5A	H	150	270	0.045		Y
0ABB-2000-TM	2A	K	78	160	0.115		Y
0ABB-2500-TM	2.5A	L	49	145	0.14		Y
0ABB-3000-TM	3A	O	35	130	0.28		Y
0ABB-3500-TM	3.5A	R	28	130	0.5		Y
0ABB-4000-TM	4A	S	18	120	0.6		Y
0ABB-5000-TM	5A	T	14	110	1.9		Y
0ABB-6000-TM	6A	V*	11	110	2.3		Y
0ABB-7000-TM	7A	X*	9.5	90	3		Y
0ABB-8000-TM	8A	Z*	7.0	80	4.5		Y

Consult manufacturer for other ratings

* The glass cover for the 6A, 7A and 8A is BLUE, It is GREEN for the other ratings.

DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25 degrees

Typical Pre-arcing I2t are measured at 10In Current.

Application testing is strongly recommended.

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Environmental Specifications

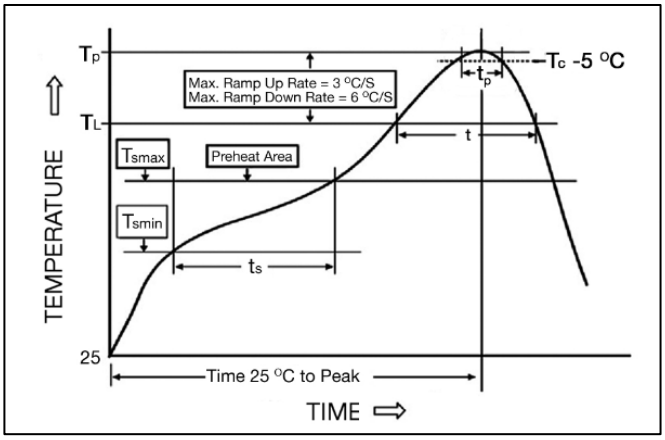
Temperature Cycling	JESD22 Method JA-104
Moisture Resistance Test	MIL-STD-202G/ method 106G EIA722/4.4.3
Humidity Bias	MIL-STD- 202 Method 103
High Temperature Operating Life	MIL-STD-202Method 108
Mechanical Shock	MIL-STD-202 Method 213
Vibration	MIL-STD-202 Method 204
Resistance to Solder Heat	MIL-STD-202, method 201
Thermal shock	MIL-STD-202 Method 107
Resistance to Solvent	MIL-STD-202 Method 215
Solderability Test	J-STD-002
Board Flex	AEC-Q200-005
Terminal Strength (SMD)	AEC-Q200-006
High Temperature Exposure	MIL-STD-202, Method 108

Soldering Method

Wave solder	Reservoir temperature: 260℃
	Time in reservoir: 10 seconds maximum
Infrared reflow	Temperature: 260℃
	Time: 30 seconds maximum

Solder Reflow Profile

Profile Feature	
Preheat & Soak Temperature min (Tsmin) Temperature max (Tsmax) Time (Tsmin to Tsmax) (ts)	 150℃ 200℃ 60-120 seconds
Average ramp-up rate (Tsmax to Tp)	3℃/second max.
Liquidous temperature (TL) Time at liquidous (tL)	217℃ 60-150 seconds
Peak package body temperature (Tp)	260℃
Time (tp) within 5℃ of the specified classification temperature (Tc)	30 seconds
Average ramp-down rate (Tp to Tsmax)	6℃/second max.
Time 25℃ to peak temperature	8 minutes max.



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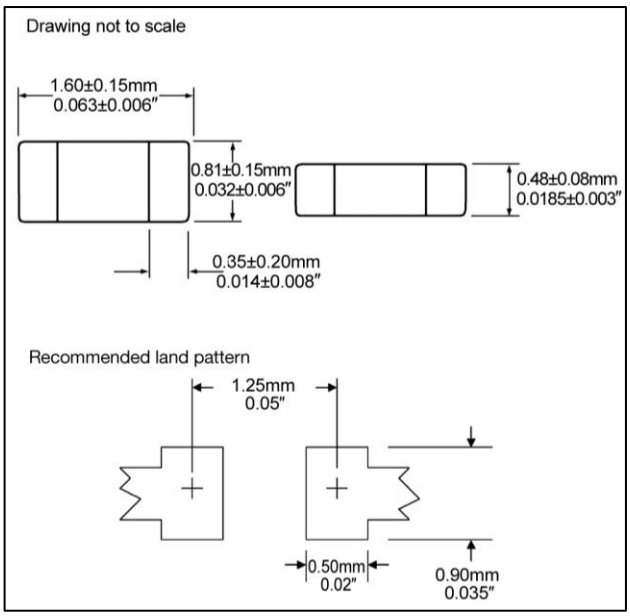
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Fuse FGNO Explanation
0ABB - [XXXX] X XX
0ABB=0ABB; [XXXX]=Ampere Rating; XX=See Ordering Information as below

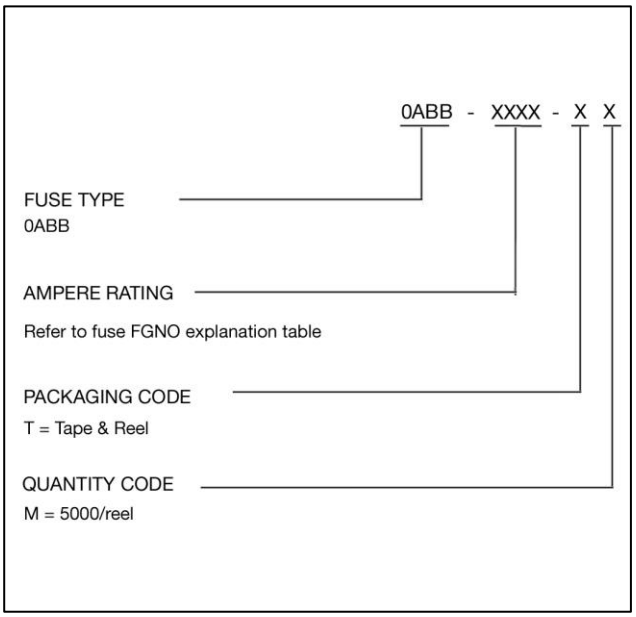
Fraction	Decimal	Amps	Bel FGNO[XXXX]
	1.0	1	1000
1-1/2	1.50	1.5	1500
	2.0	2	2000
2-1/2	2.5	2.5	2500
	3.0	3	3000
3-1/2	3.5	3.5	3500

Decimal	Amps	Bel FGNO[XXXX]
4.0	4	4000
5.0	5	5000
6.0	6	6000
7.0	7	7000
8.0	8	8000

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	5000	0ABB-XXXX-TM

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