

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number: 3AB 12-R
Manufacturer: Bel Fuse Inc.
Package: Bulk
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/bel-fuse-inc/3ab-12-r.html>

Request a Quote:

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Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

EOL-Last Buy Date is September 30, 2024
The replacement series is the 0603C(0603Cxxxx-xx)
No replacement for the 3AB 500mA through 750mA

Type 3AB

Fast Blow Fuse Series

HF  3AB Series, 6x32mm Ceramic Tube Fast Blow Fuse

RoHS Compliant

Description

6x32mm Fast Blow, Ceramic tube body cartridge fuse designed, approved and complied with UL and CSA standard 248-14.

Features

- Meet UL and CSA standard 248-14
- Wide operating temperature range
- Bulk packing available
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863
- Halogen Free
- Lead Free

Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE =



HALOGEN FREE =



Physical Specifications

Materials	Body : Ceramic
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "3AB", "Current Rating", "Voltage Rating",
	"Appropriate Safety Logos", "✓" (RoHS compliant)
	On Label :
	"bel", "3AB, "Current Rating", "Voltage Rating", "Interrupting Rating",
	"Appropriate Safety Logos" and "✓", "e" (China RoHS compliant).

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

Testing Current	Blow Time		Amp Range
	Minimum	Maximum	
100%	4 hrs.	N/A	100mA-20A
135%	N/A	1 hr.	100mA-10A
200%	N/A	5 sec	100mA-10A
	N/A	120 sec	12A-20A

Safety Agency	Safety Agency Certificate	Ampere Rating/ Voltage Rating	Ampere Range / Volt @ I.R. ability*
	E20624	500mA–20A /250V AC	500mA-1A/250V AC@35A >1A-3.5A/250V AC@100A >3.5A-10A/250V AC@200A 500mA-10A/125V AC@10,000A
	LR39772		
	E20624		>10A-15A/250V AC@750A >15A-20A/250V AC@1,500A >10A-20A/125V AC@10,000A
*I.R.= Interrupting Rating = Short Circuit Rating(Amps)			

Type 3AB

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 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

Electrical Specifications

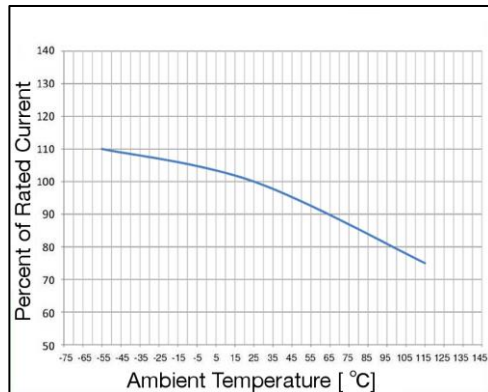
Catalog Number	Ampere Rating	Typical Cold Resistance (ohms)	Volt-drop @100%In (Volt) max.	Voltage and Interrupting Ratings	Melting I²T <10 mSec (A² Sec)	Melting I²T @10 In (A² Sec)	Maximum Power Dissipation (W)	Agency Approvals	
									
3AB 500-R	500mA	0.74	1.50	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.14	0.10	1.92	Y	Y
3AB 750-R	750mA	0.257	0.36		0.75	0.74	0.30	Y	Y
3AB 1-R	1A	0.155	0.28		1.4	1.4	0.37	Y	Y
3AB 1.25-R	1.25A	0.114	0.27		2.5	2.5	0.44	Y	Y
3AB 1.5-R	1.5A	0.089	0.27		3.80	3.95	0.49	Y	Y
3AB 1.6-R	1.6A	0.085	0.27		4.2	4.4	0.51	Y	Y
3AB 2-R	2A	0.057	0.22		7.2	7.6	0.59	Y	Y
3AB 2.5-R	2.5A	0.043	0.21		12	13	0.70	Y	Y
3AB 3-R	3A	0.033	0.17		21	23	0.83	Y	Y
3AB 3.5-R	3.5A	0.027	0.18		28	31	0.91	Y	Y
3AB 4-R	4A	0.024	0.17		36	40	1.00	Y	Y
3AB 5-R	5A	0.018	0.16		63	70	1.20	Y	Y
3AB 6-R	6A	0.014	0.15		107	123	1.40	Y	Y
3AB 7-R	7A	0.012	0.16		141	162	1.60	Y	Y
3AB 8-R	8A	0.010	0.15		184	214	1.70	Y	Y
3AB 10-R	10A	0.008	0.13		316	372	2.00	Y	Y
3AB 12-R	12A	0.009	0.19		501	597	2.30	Y	
3AB 15-R	15A	0.007	0.17		845	1023	2.70	Y	
3AB 20-R	20A	0.004	0.15		1598	1968	3.00	Y	

Consult manufacturer for other ratings

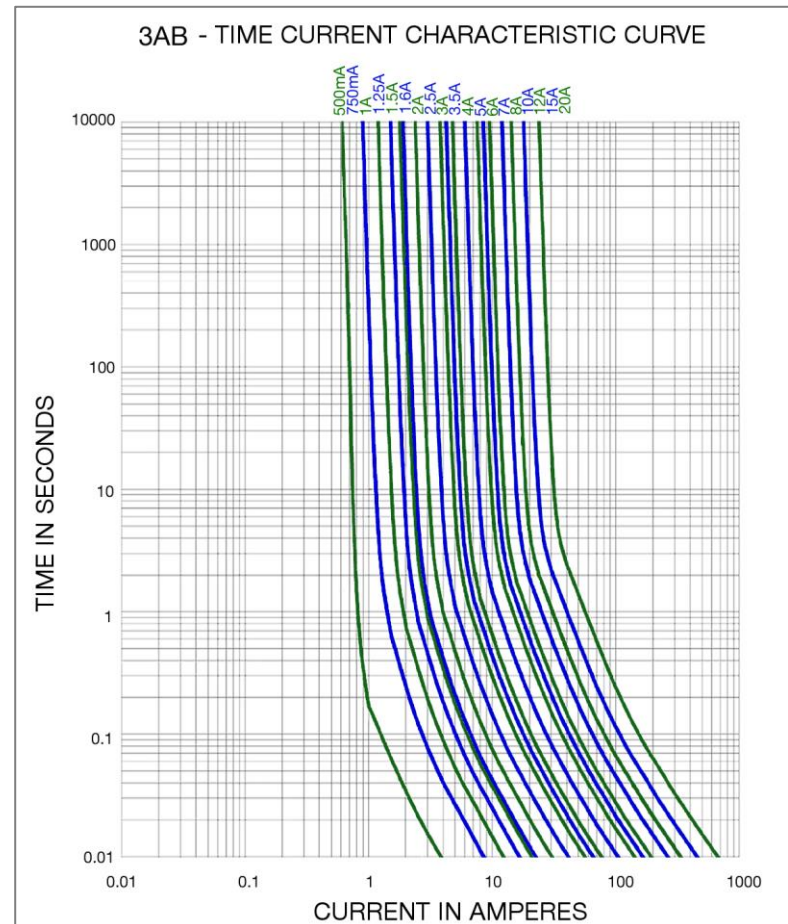
No replacement for the 500mA - 750mA
The replacement series is the 0603C

Type 3AB

Temperature Derating Curve

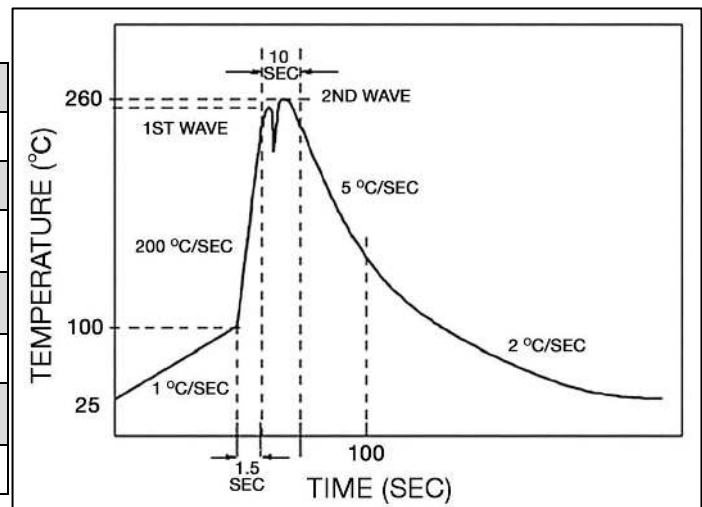


Average Time Current Curve



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 Tp	260°C
Time within +0°C / -5°C of actual peak temperature	10 seconds
Ramp-down rate	5°C / second max.



Type 3AB

Fuse FGNO Explanation

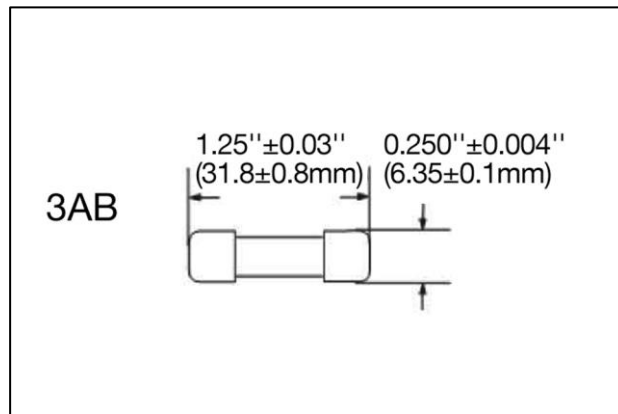
06X3 R [XXXX] -XX

0603R=3AB; [XXXX]=Ampere Rating; XX=See Ordering Information as below

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]
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
	1.60	1.6	1600
	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
	6.0	6	6000
	7.0	7	7000
	8.0	8	8000
		10	9100
		12	9120
		15	9150
		20	9200

Mechanical Dimensions



Ordering Information

06X3 R XXXX - X X

FUSE TYPE _____
 0603R = 3AB Series

R = RoHS Compliant _____

AMPERE RATING _____
 Refer to fuse FGNO explanation table

PACKAGING CODE _____
 3 = 3AB, Cartridge, 1K / Box

VOLTAGE CODE _____
 3 = 250V, for 100mA-20A

Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	33	N/A