

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	0684L9400-01
Manufacturer:	Bel Fuse Inc.
Package:	Tape & Reel (TR), Cut Tape (CT), Digi-Reel®
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/bel-fuse-inc/0684L9400-01.html>

Request a Quote:

Submit RFQ for this part



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Contact Information

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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.

Type 0684L 40A

Square Ceramic Surface Mount Fast Blow Fuse

HF 0684L 40A - 4818 Size

RoHS Compliant

Features

- 350V AC Voltage Rating
- Wide operating temperature range
- Tape & Reel for auto-insert SMD process
- 260°C IR compatible
- RoHS compliant with exemption 7(a)
Full compliance with EU Directive 2011/65/EU and amending directive 2015/863
- Halogen Free
- AEC-Q Compliant
- Meets Bel automotive qualification*
- * - Largely based on internal AEC-Q test plan

Applications

- Lighting system
- LCD monitor
- Office electronic equipment
- Industrial equipment
- Medical equipment
- Power supply

HALOGEN FREE = **HF**

Physical Specifications

Materials	Body : Ceramic
	Terminations : Silver Plated Caps/Gold Plated Caps/Palladium Plated Caps
Marking	On Fuse :
	"40A", "350V" by laser mark. "bel", stamped in end caps.
	On Label :
	"bel", "0684L", "Current Rating", "Voltage Rating", "Interrupting Rating", "cULus" and "✓", "50" (China RoHS compliant).

UK
CA
cULus
CE
AEC-Q Compliant

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

Testing Current	Blow Time	
	Minimum	Maximum
100%	4 hrs.	N/A
200%	N/A	60 sec

Safety Agency Approvals

Safety Agency	Safety Agency Certificate	Ampere Rating / Voltage Rating	Ampere Range / Volt @ I.R. ability*
cULus	E506667	40A / 350V AC	40A / 350V @ 250A AC 125V @ 1000A AC 125V @ 1000A DC
*I.R.= Interrupting Rating = Short Circuit Rating(Amps)			

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.).
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition J (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)

High temperature storage	MIL-STD-202 Method 108
Temperature cycling	JESD22 Method JA-104, Test Condition B
Biased humidity	MIL-STD-202 Method 103, 85C/85% RH with 10% operating power for 1000 hrs.
Operational life	MIL-STD-202 Method 108, Test Condition D
Resistance to solvents	MIL-STD-202 Method 215
Mechanical shock	MIL-STD-202 Method 213, Test Condition C
Vibration	MIL-STD-202 Method 204
Resistance to soldering heat	MIL-STD-202 Method 210, Test condition B
Thermal shock	MIL-STD-202 Method 107
Solderability	J-STD-002
Board flex(SMD)	AEC-Q200-005
Terminal strength	AEC-Q200-006
Electrical characterization	3 temperature electrical

Electrical Specifications

Part Number	Ampere Rating	Nominal Cold Resistance (ohms)	Nominal Volt-drop @100%In (Volt)	Voltage and Interrupting Ratings	Melting I ² T @10 In (A ² Sec) Min.	Agency Approvals
						
0684L9400-X1	40A	0.0016	0.15	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	195	Y

Consult manufacturer for other ratings

NOTES:

Test Conditions

All tests were conducted with fuse samples soldered on a PCB (1.6mm thick) test board with copper traces measuring 0.1mm nominal thickness (3 oz. clad), 25.4mm wide and 100mm overall length.

The maximum temperature recorded in open air was 135 °C in a 25°C ambient (110°C rise). Consideration should be given to checking operating temperatures in end-use application with regard to thermal index of surrounding materials and components.

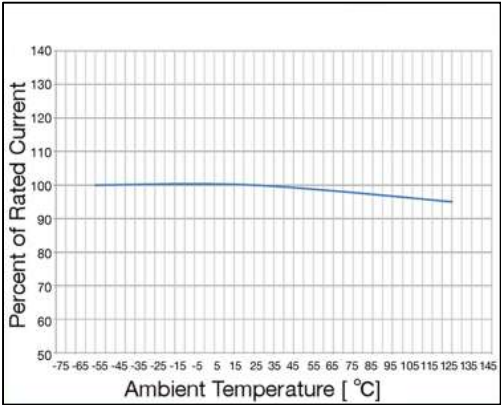
Remark: The marking on fuse shall be facing upward on PCB.

Caution:

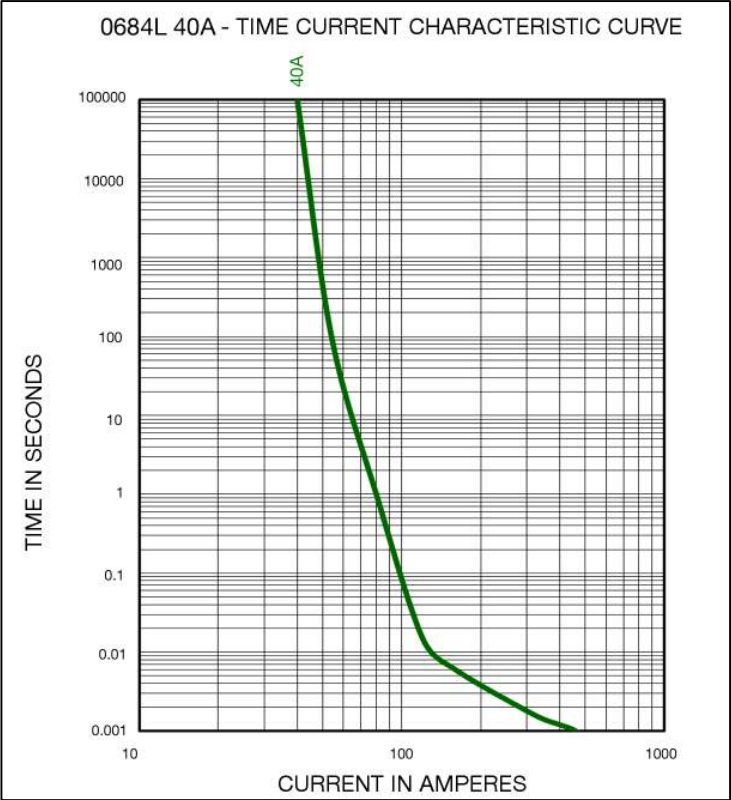
- Minimum fusing point:

The 0684L 40A fuse is NOT intended to be operated at currents between 100% and 200% of ampere rating. Prolonged operation at currents in this range may result in overheating of the fuse and/or desoldering of the fuse caps from the PCB pad.

Temperature Derating Curve

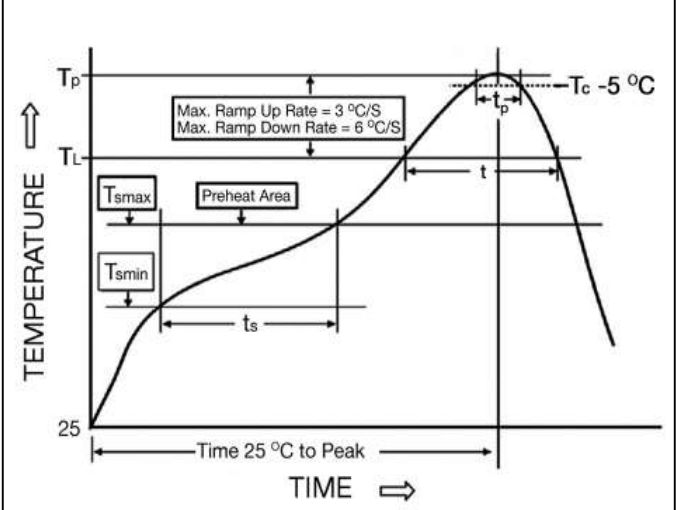


Average Time Current Curve

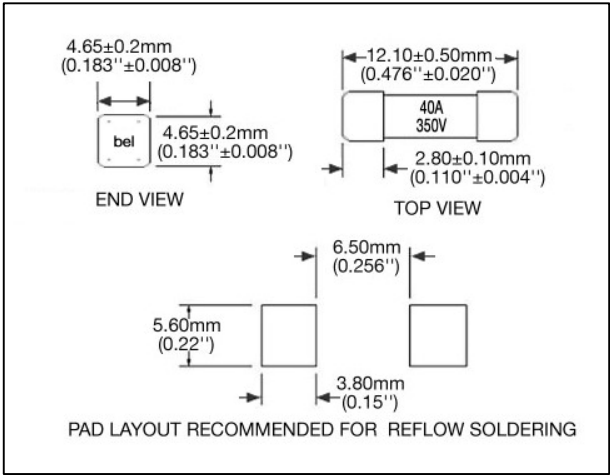


Soldering Parameters

IR Reflow Profile	
Preheat & Soak	
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,30seconds
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.



Mechanical Dimensions



Ordering Information

	0684L	9400	-	X	X
FUSE TYPE	0684L				
AMPERE RATING	40A				
PLATING					
	0 = Silver Plated Caps				
	1 = Gold Plated Caps				
	2 = Palladium Plated Caps				
QUANTITY & PACKAGING CODE					
	1 = 1500 pcs with Tape and Reel				

Packaging

Packaging Tape & Reel	Packaging Specification	Quantity	Quantity & Packaging Code
24mm wide tape with 13 inches Diameter reel	EIA Standard 481-E	1500	X1