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℃ IR compatible
- AEC-Q Compliant
- RoHS compliant with exemption 7(a)
- Halogen Free
- Meets Bel automotive qualification*

  * - Largely based on internal AEC-Q test plan

AEC-Q Compliant

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
Marking	On Fuse :
	“40A”,”350V” in green color. “bel”, stamped in end caps.
	On Label :
	"bel", "0684L", "Current Rating", "Voltage Rating", "Interrupting Rating", “ c US " and " RoHS ", " 50 "(China RoHS 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	Voltage Rating (V)	Ampere Range / Volt @ I.R. ability*
c US	E20624	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℃,10 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65℃ to +125℃).
Operating Temperature	-55℃ to +125℃
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^2T @10 In (A^2 Sec) Min.	Agency Approvals
0684L9400-01	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 ℃ in a 25℃ ambient (110℃ 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.

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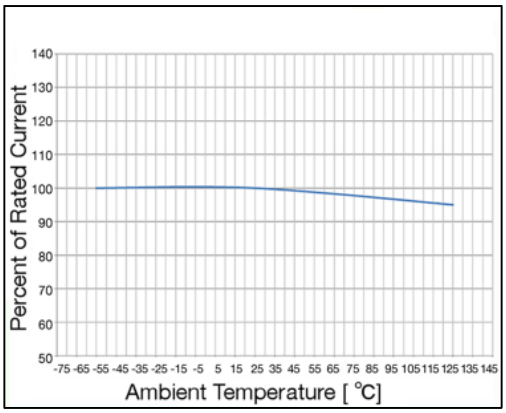
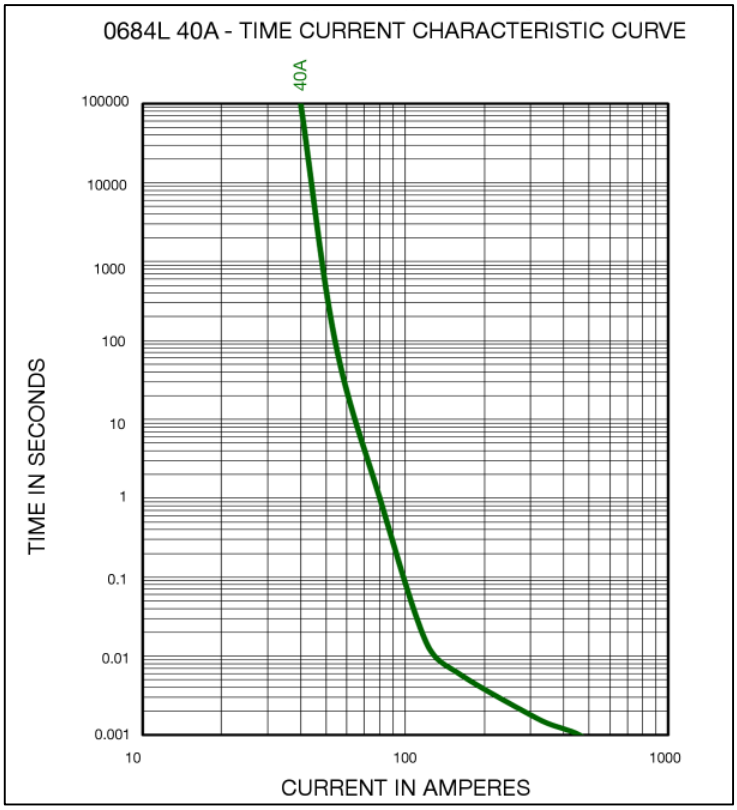
Temperature Derating Curve

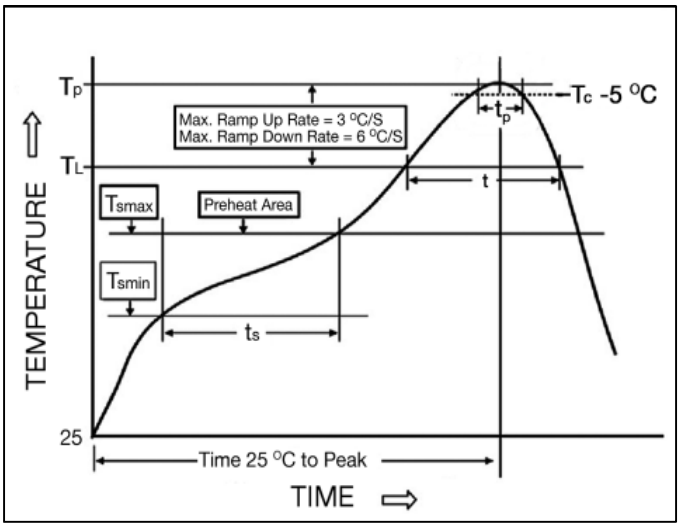


Average Time Current Curve



Soldering Parameters

IR Reflow Profile	
Preheat & Soak Temperature min (T_{smin}) Temperature max (T_{smax}) Time (T_{smin} to T_{smax}) (t_s)	 150°C 200°C 60-120 seconds
Average ramp-up rate(T_{smax} to T_p)	3°C / second max.
Liquidous temperature(T_L) Time at liquidous (t_L)	217°C 60 – 150 seconds
Peak temperature (T_p)	260°C max,30seconds
Time (tp) 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.



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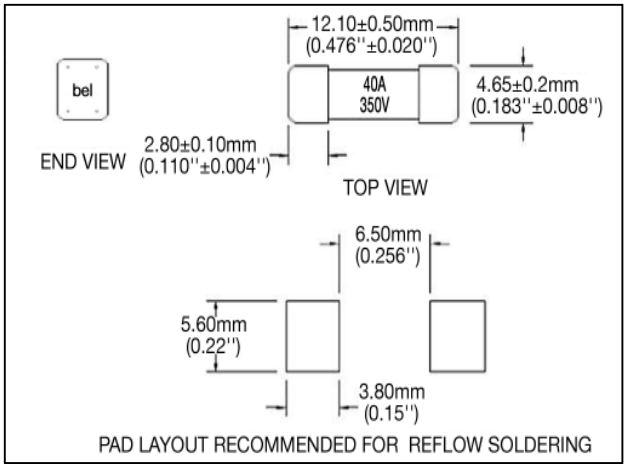
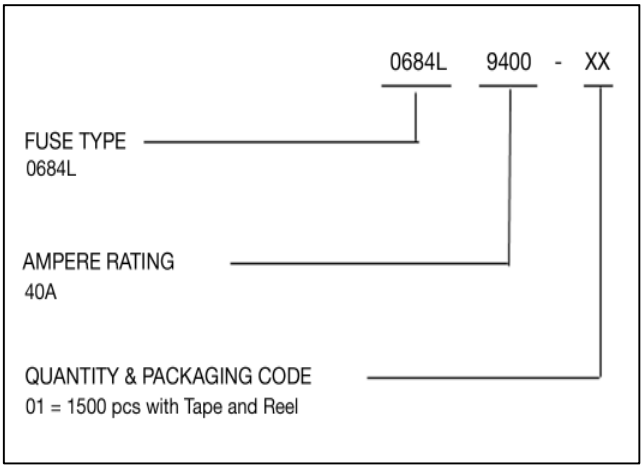
Mechanical Dimensions



Ordering Information



Packaging

Packaging Tape & Reel	Packaging Specification	Quantity	Quantity & Packaging Code
24mm wide tape with 13 inches Diameter reel	EIA Standard 481-E	1500	01

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