

# 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 7a
- Halogen Free

### Applications

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

HALOGEN FREE = **HF**



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

### Safety Agency Approvals

Testing Current	Blow Time	
	Minimum	Maximum
100%	4 Hrs.	N/A
200%	N/A	60 Sec

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
<b>UL US</b>	E20624	40A / 350V AC	40A / 350V@250A AC 125V@1000A AC 125V@1000A DC

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

### 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", "UL US" and "CE", "RoHS" (China RoHS compliant).

Specifications subject to change without notice



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### 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)

### Electrical Specifications

Catalog Number	Ampere Rating	Nominal Cold Resistance (ohm)	Nominal Volt-drop @100% In (Volt)	Voltage and Interrupting Ratings	Melting I <sup>2</sup> T @10 In (A <sup>2</sup> 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°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.

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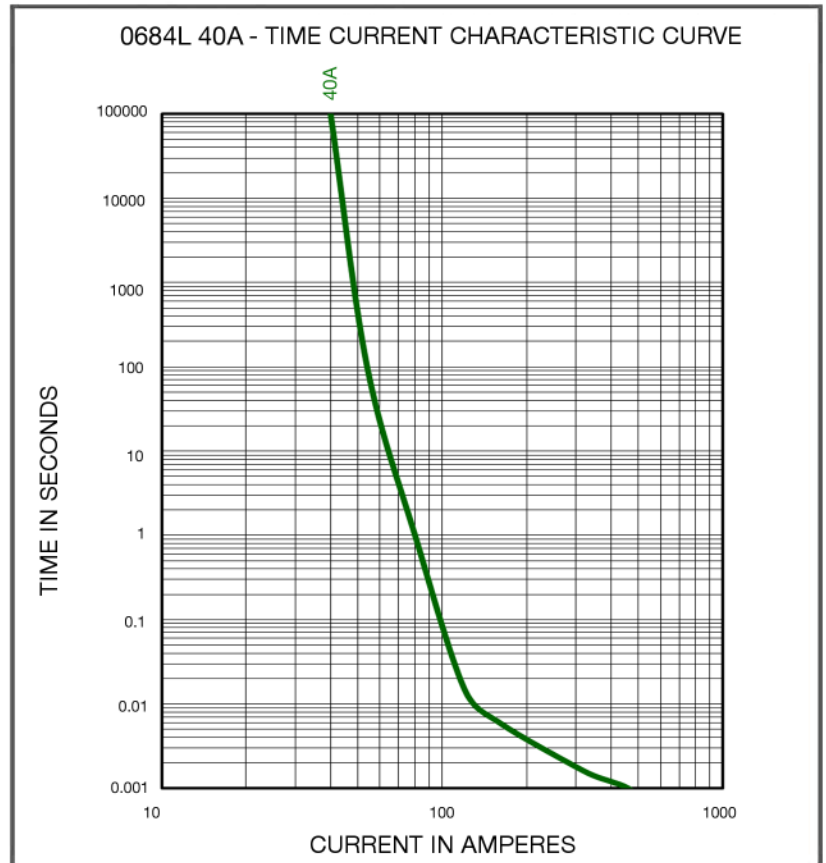
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Square Ceramic Surface Mount Fast Blow Fuse

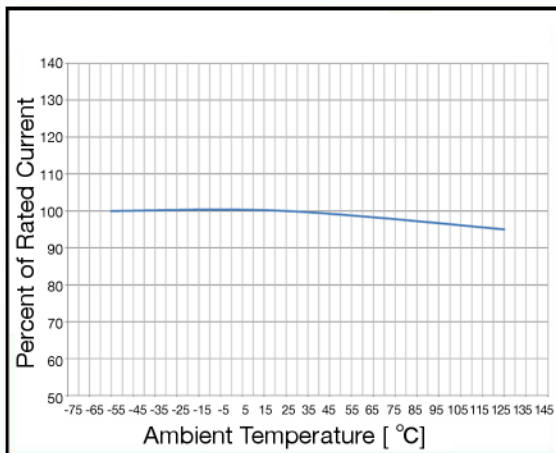
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## Average Time Current Curve

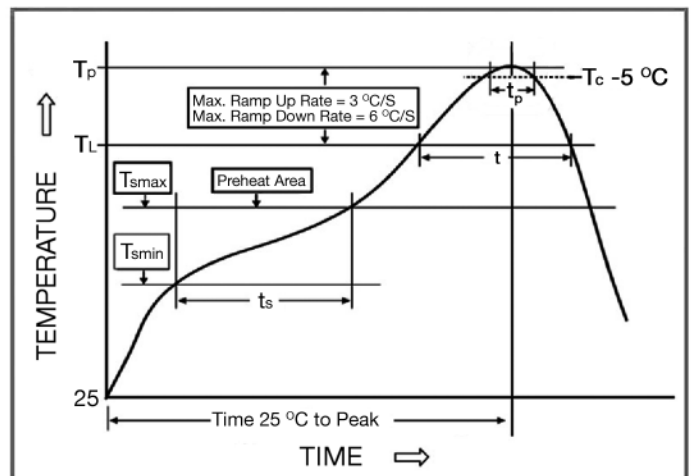


## Temperature Derating Curve



## Soldering Parameters

IR Reflow Profile	
<b>Preheat &amp; Soak</b> 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, 30 seconds
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.



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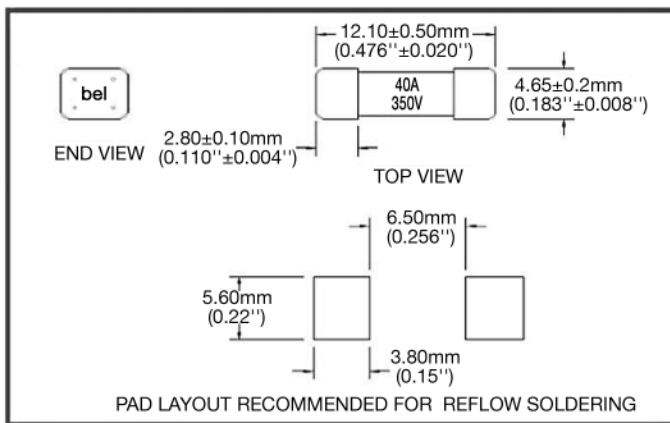
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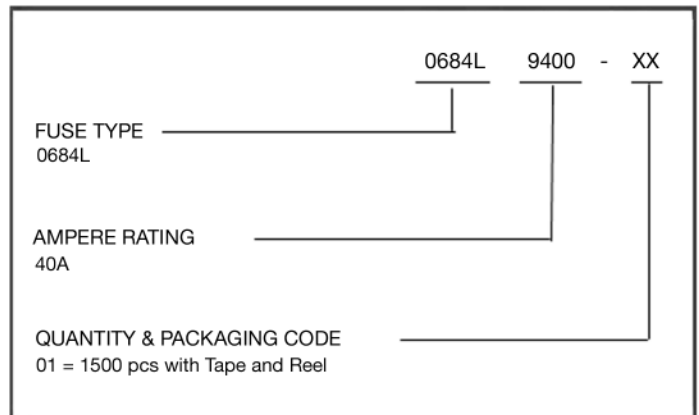
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## Mechanical Dimensions



## Ordering Information



## Packaging

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

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