

## Type 06Q

### 0603 Fast Acting SMD Fuses

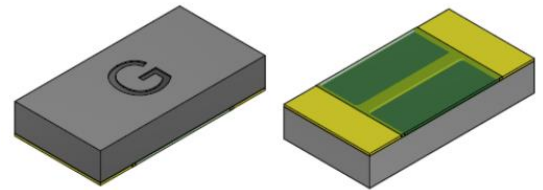
#### Description

06Q Series are the fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics during use and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

Rated Current	Electrical Characteristics	
250mA~2A	1.0In	2.0In
	4 hour min.	5 sec max

#### Features

- ▲Compatible with reflow
- ▲Excellent environmental integrity
- ▲One time positive disconnect



#### Specifications

Part No.	Rated Voltage DC	Rated Current (A)	Breaking Capacity (A) <sup>1</sup>	Typical Cold Resistance (mOhms) <sup>2</sup>	Typical Voltage Drop (mV)	Typical Pre-Arcing I <sup>2</sup> t (A <sup>2</sup> Sec) <sup>3</sup>	Alpha Mark
06Q0250	32V	0.25	50A	700	280	0.0003	D
06Q0375		0.375		430	250	0.0007	E
06Q0500		0.50		235	215	0.0020	F
06Q0750		0.75		160	175	0.0055	G
06Q1100		1.0		108	160	0.01	H
06Q1150		1.5		55	125	0.03	K
06Q1200		2.0		41	115	0.06	N

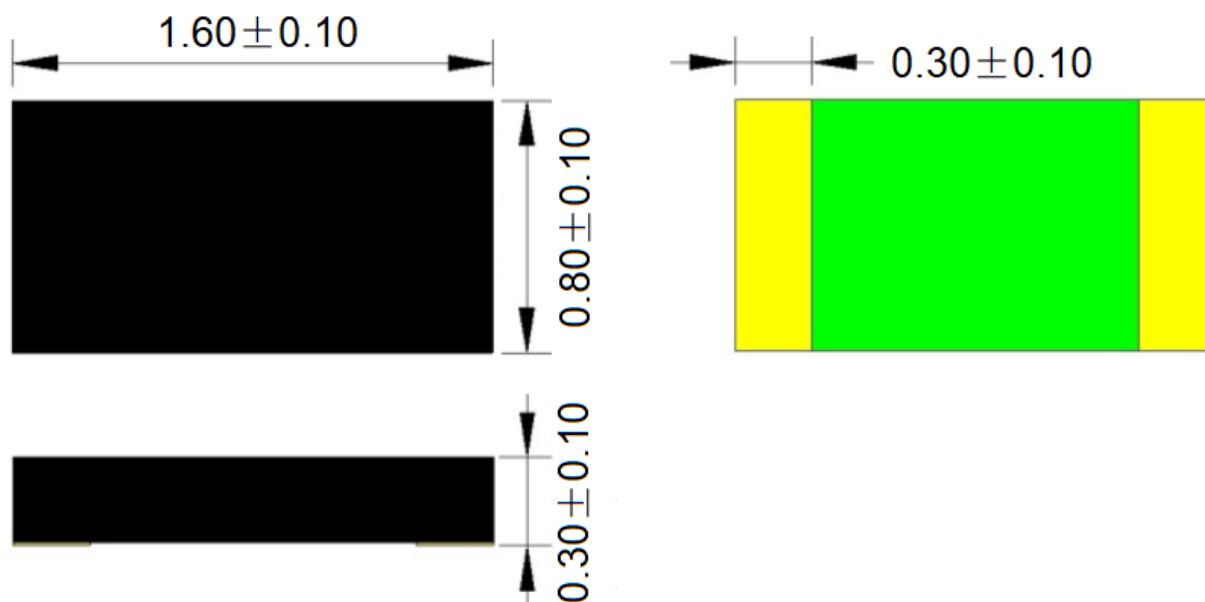
①DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)

②DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25degrees

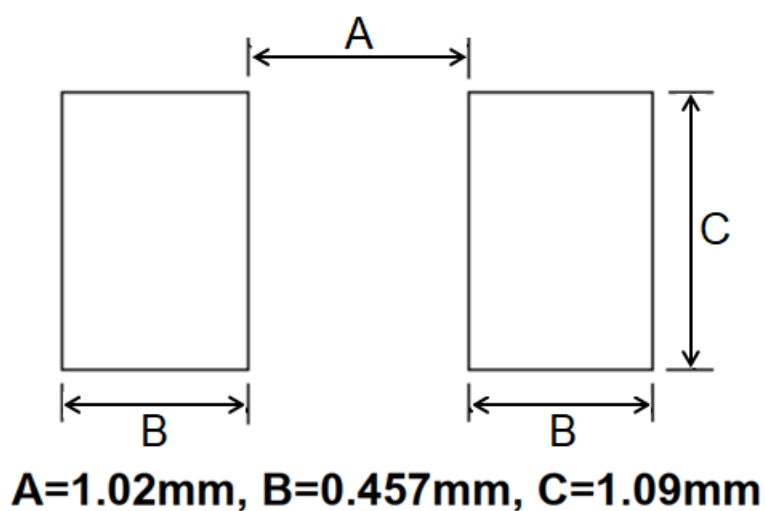
③Typical Pre-arcing I<sup>2</sup>t are measured at 10In Current

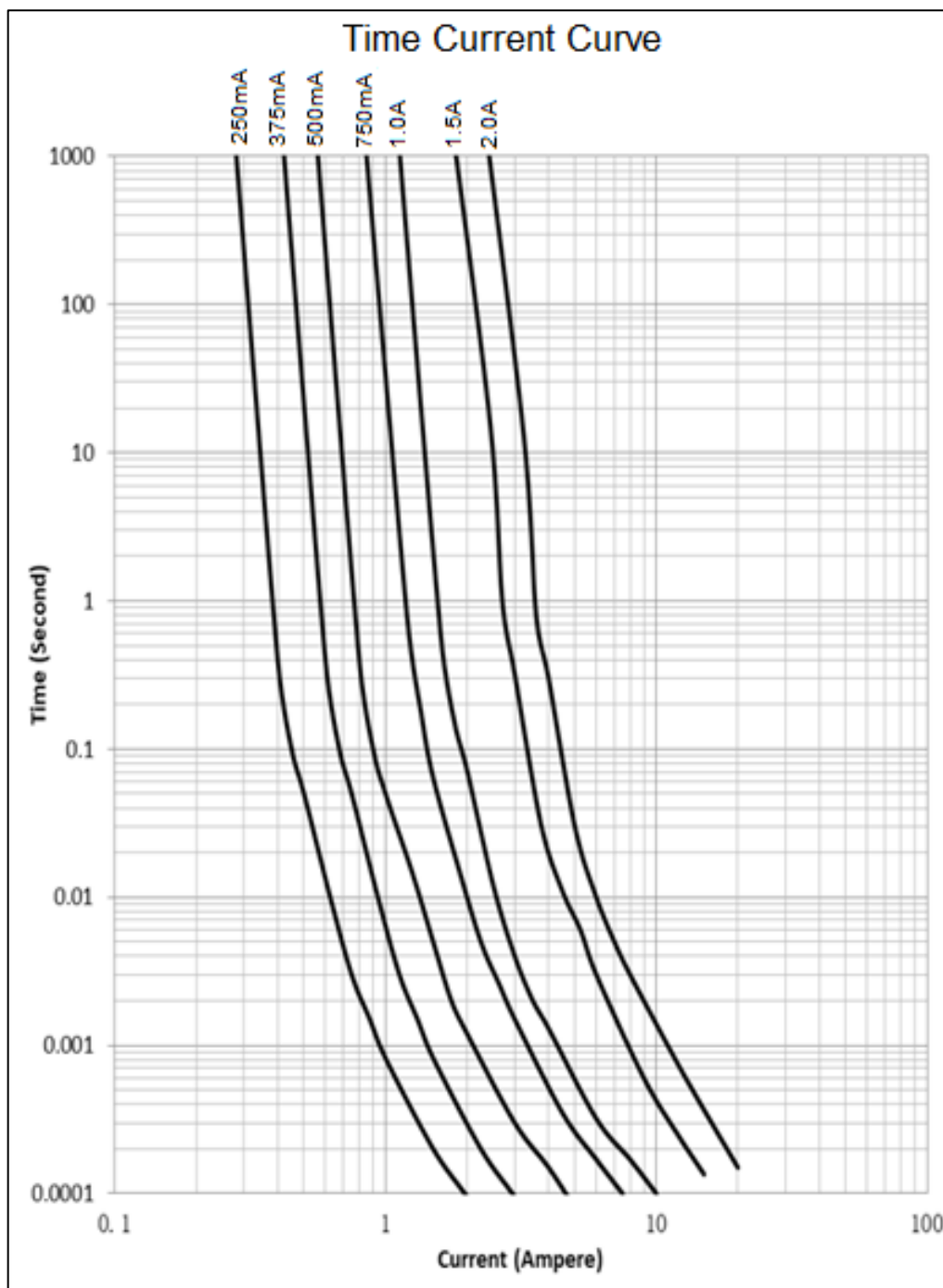
## Dimension

Drawing not to scale (Unit: mm)



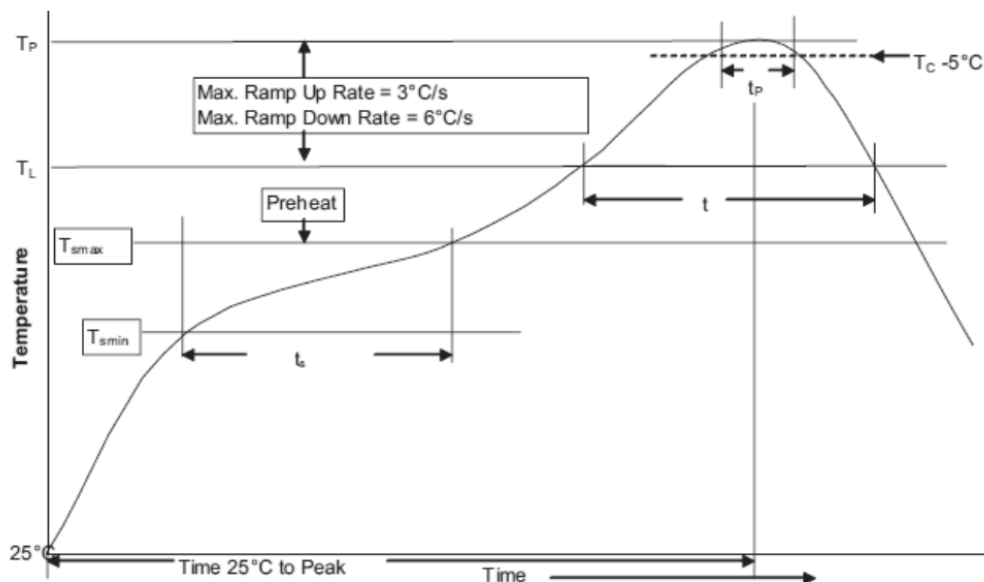
## Recommended land pattern





**Soldering method**

- Infrared reflow
  - Temperature: 260°C
  - Time: 30 seconds maximum

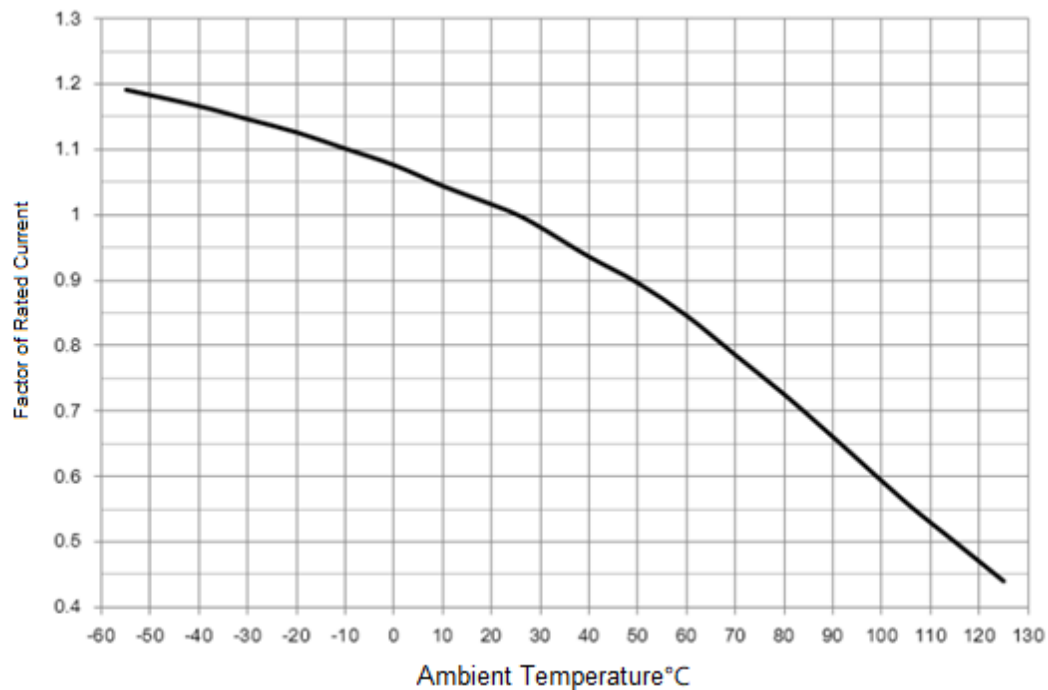
**Solder reflow profile**

Profile Feature		Lead(Pb) free solder
Preheat and 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 package body temperature ( $T_P$ )		260°C
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.

## Temperature Derating Curve

Normal ambient temperature: 23+/-3°C

Operating temperature: -55 ~ 125°C, with proper correction factor applied



Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Example: For continuous operation at 70 degrees Celsius, the fuse should be derated as follows:

$$I = (0.75)(0.80)I_{RAT} = (0.60)I_{RAT}$$

## Package

5000 fuses on 8mm tape-and-reel on a 7 inch (178mm) reel per EIA Standard 481.

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