



## Description

12.100 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.

## Features

- Rapid interruption of excessive current
- Compatible with reflow and wave solder
- Ceramic and glass construction
- One time positive disconnect
- Lead free and Halogen free material

## Applications

- Secondary circuit protection
- Laptop, notebook, netbook
- Flat panel displays
- High definition television(HDTV)
- LCD/LED backlighting
- Computers and peripherals
- Gaming console systems
- Handheld/portable equipment
- Mobile device charges
- Automotive
- Central body control module
- Heating ventilation and air conditioning
- Doors, window lift and seat control
- Digital instrument cluster
- In-vehicle infotainment and navigation
- Electric pumps, motor control and
- Powertrain control module(PCU)/Engine
- Transmission Control Unit(TCU)

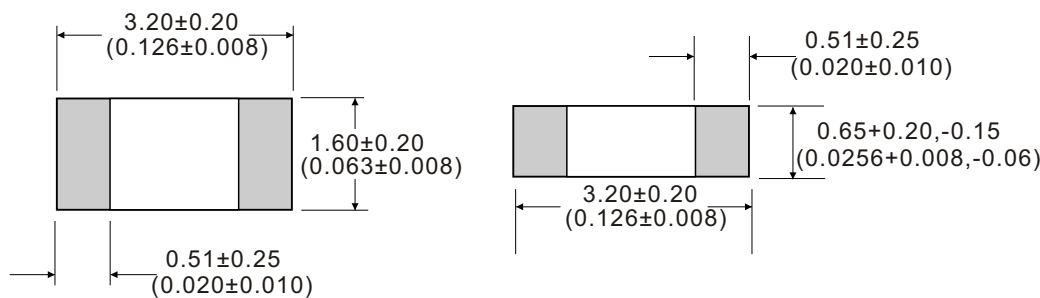
## Electrical Characteristics

Rated Current	% of Amp Rating	Opening Time
250mA~10A	100%	4hours, min
1A~3A	200%	1.0s - 60 s
1A~5A	250%	5.0s max
1A~5A	300%	0.1s - 3.0 s
250mA~750mA	350%	5.0s max
6A~10A	350%	5.0s max
250mA~10A	1000%	0.2ms - 20.0 ms

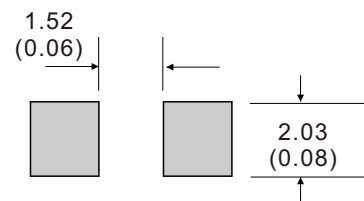
## Specification

Part No.	Rated Voltage			Rated Current	Breaking Capacity	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>	Marking															
12.100.0.25	72Vdc	63Vdc	32Vdc/24Vdc	250mA	100A@72Vdc	3700	1350	0.00038	I															
12.100.0.375				375mA						100A@63Vdc	1850	720	0.00077	E										
12.100.0.5				500mA											100A@32Vdc	1050	690	0.0019	B					
12.100.0.75				750mA																100A@24Vdc	775	680	0.15	C
12.100.1				1A																				
12.100.1.5				1.5A	-	218	355	0.4	K															
12.100.2				2A						-	133	310	1.1	N										
12.100.2.5				2.5A											-	79	230	1.7	O					
12.100.3				3A																-	49	185	2.2	P
12.100.3.5				3.5A																				
12.100.4				4A	-	33	160	3.2	S															
12.100.4.5				4.5A						-	28	150	4.2	X										
12.100.5				5A											-	22	135	6	T					
12.100.6				6A																-	15.5	140	12	F
12.100.7				7A																				
12.100.8	8A	-	8.0	100	18	V																		
12.100.10	10A						-	7.0	90	30	U													

## Dimensions (Unit: mm/inch)



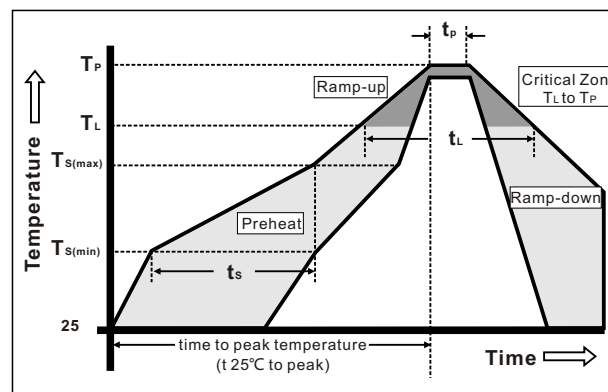
## Pad layout



## Installation Recommendations

### 1 Wave Soldering Parameters

Reflow Condition		Pb-free assembly
Pre Heat	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (Min to Max) ( $t_s$ )	60 – 120 seconds
Average Ramp-up Rate (Liquidus Temp (TL) to peak)		3°C/second max.
TS(max) to TL - Ramp-up Rate		5°C/second max.
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_P$ )		260+0/-5°C
Time within 5° C of actual peak Temperature ( $t_p$ )		30 seconds
Ramp-down Rate		6°C/second max
Time 25° C to peak Temperature ( $T_P$ )		8 minutes max.
Do not exceed		260°C



Solder Pot Temperature: 260°C max  
Solder Dwell Time: 10 Seconds max

### 2 Hand-Solder Parameters

Solder Iron Temperature: 280±5°C  
Heating Time: 5 Seconds min  
Generally, hand-soldering is not recommended

## Part Numbering System



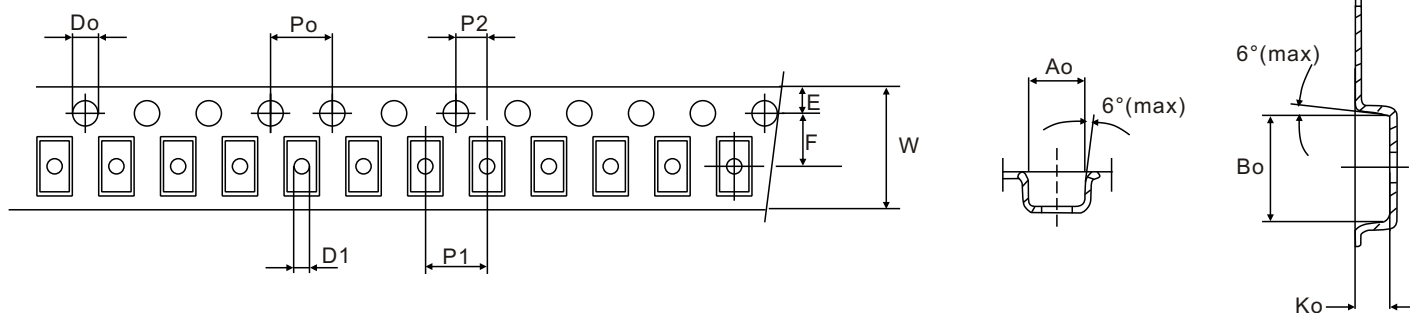
## Product Characteristics

Materials	<b>Body:</b> Ceramic <b>Terminators:</b> Silver over-plated with tin <b>Element:</b> Alloy(Ag,Cu,Zn) <b>Cover Coat:</b> Glass
Operating Temperature	-55°C to 125°C Consult temperature derating curve chart.
Thermal Shock	300 cycles -55°C to 125°C
Humidity	MIL-STD-202F, Method 103B, Condition D
Vibration	Per MIL-STD-202F, Method 201A
Insulation Resistance (After Opening)	Greater than 10,000 ohms
Resistance to Soldering Heat	MIL-STD-202G, Method 210F, Condition D



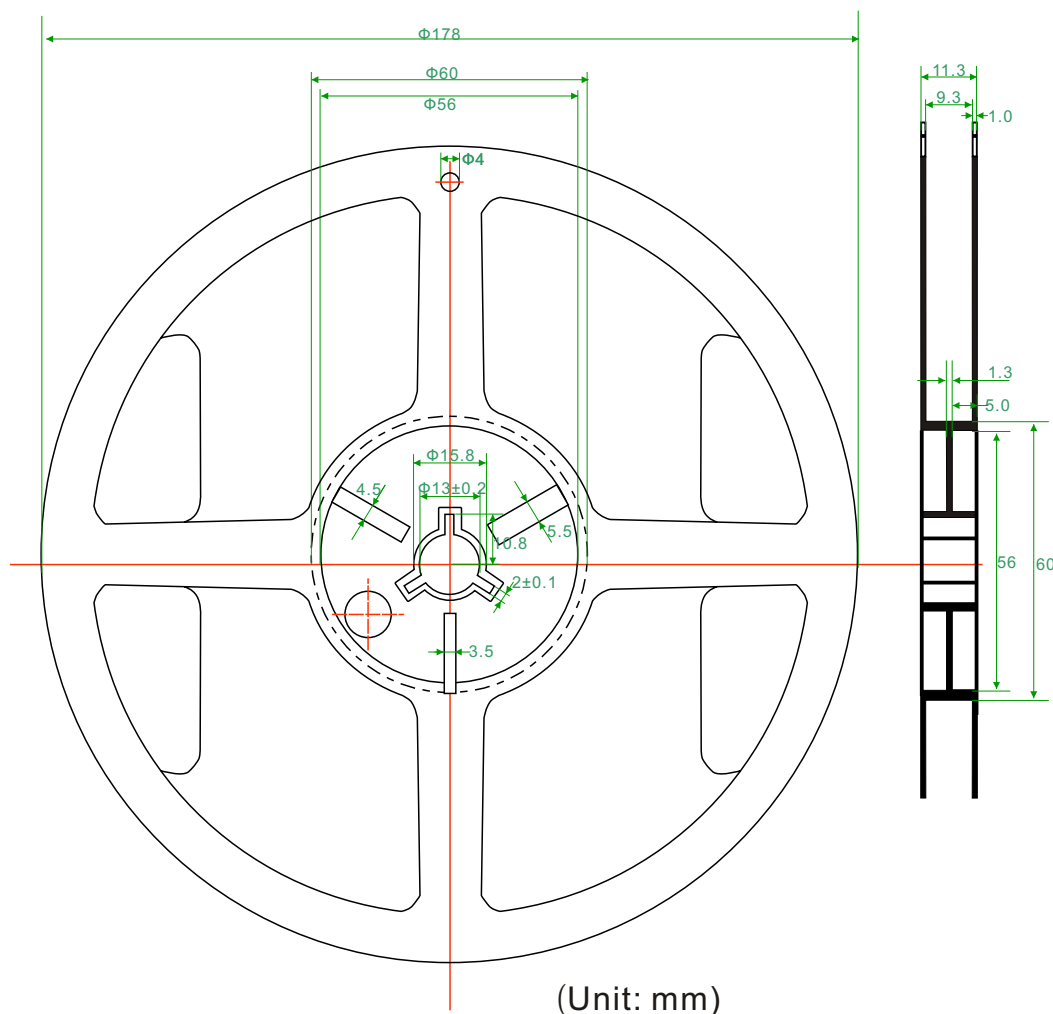
## Packaging

3,000 pieces of fuses in plastic or paper taper



Symbol	$A_o$	$B_o$	$K_o$	$P_o$	$P_1$	$P_2$
Spec	$1.80 \pm 0.10$	$3.50 \pm 0.10$	$1.27 \pm 0.10$	$4.00 \pm 0.10$	$4.00 \pm 0.10$	$2.00 \pm 0.10$
Symbol	$E$	$F$	$D_o$	$D_1$	$W$	$T$
Spec	$1.75 \pm 0.10$	$3.50 \pm 0.10$	$1.50 \pm 0.10$	1.00(Max)	$8.00 \pm 0.10$	$0.23 \pm 0.02$

(Unit: mm)



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