



Description

12.000 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.

Electrical Characteristics			
Rated Current	1.0In	2.5In	3.5In
250mA~5A	4hours, min	5 sec max.	-
6A~30A	4hours, min	-	5 sec max.

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

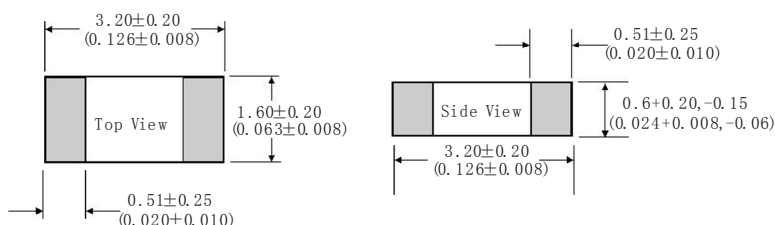
Secondary protection for space constrained applications:

- Cell phone
- Battery pack
- Digital camera
- DVD player
- Hard disk drive

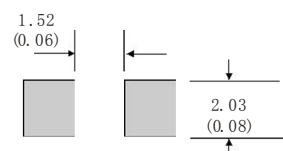
Specification

Part No.	Rated Voltage (Vdc)	Rated Current (A)	Breaking Capacity	Typical Cold Resistance (mOhms) ²	Typical Voltage Drop (mV)	Typical Pre-Arcing P _t (A ² Sec) ³	Marking
12.000.0.25	72	0.25	100A@72/63/32Vdc	3500	1400	0.00038	I
12.000.0.375		0.375		1750	730	0.00077	E
12.000.0.5		0.5		980	700	0.0019	B
12.000.0.75		0.75		800	700	0.15	C
12.000.1		1		470	490	0.18	H
12.000.1.5		1.5		218	355	0.4	K
12.000.2		2		133	305	1.1	N
12.000.2.5		2.5		79	240	1.7	O
12.000.3		3		49	185	2.2	P
12.000.3.5		3.5		37	180	2.7	R
12.000.4		4		33	169	3.2	S
12.000.4.5		4.5		28	160	4.2	X
12.000.5		5		23	140	6	T
12.000.6		6		15.5	150	12	F
12.000.7		7		11.5	130	18	J
12.000.8	8	7.3	110	18	V		
12.000.10	10	6.5	90	30	U		
12.000.12	12	4.7	90	45	W		
12.000.15	15	3	90	33	Y		
12.000.20	20	2	90	80	Q		
12.000.25	25	3	90	60	25		
12.000.30	30	2.1	90	100	30		

Dimensions (Unit: mm/inch)



Pad layout (Unit: mm/inch)

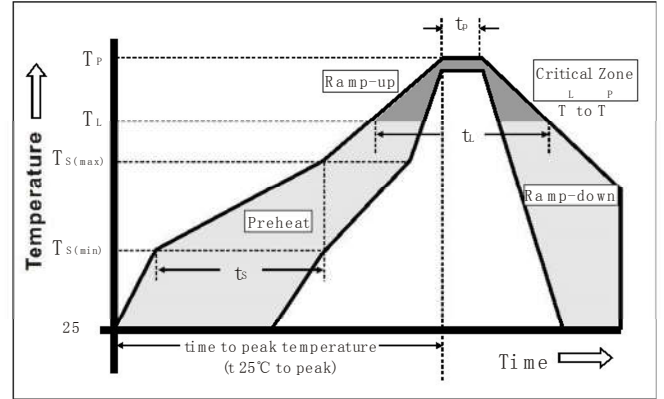


Soldering Parameters

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_p)	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_r)	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

Wave Soldering	260° C, 10 seconds max.
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Temperature

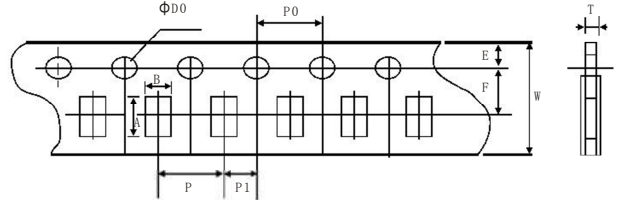


Product Characteristics

Materials	Body: Advanced High Temperature Substrate Terminations: 100% Tin over Nickel over Copper Element Cover Coat: Conformal Coating
Operating Temperature	-55° C to 125° C Consult temperature derating curve chart.
Thermal Shock	Withstands 5 cycles of -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 paper taper and reeled on a 178mm (7 inch) reel



Type	A	B	W	F	E
Spec	3.50±0.20	1.90±0.20	8.00±0.20	3.50±0.05	1.75±0.10
Type	P	P0	P1	D0	T
Spec	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	0.75±0.10

(Unit: mm)

Part Numbering System

1 2.000.2

Package Category
Fast Acting SMD Series

Rated current

Time Current Curve

