

Fast-Acting Surface Mount Fuse

SFEE 125V Fast-Acting Series

Descriptions

SFEE 125V Fast-Acting Series provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.



Features

- ◆ Fast-Acting.
- ◆ Small size (6.1mm*2.5mm).
- ◆ Wide range of current rating available.
- ◆ Wide operating temperature range.
- ◆ Low temperature de-rating.
- ◆ RoHS compliant.
- ◆ Tape and Reel for automatic placement.
- ◆ Conflict free metals.

Applications

- ◆ LED lighting
- ◆ Notebook PC
- ◆ Battery devices
- ◆ LCD/PDP devices
- ◆ LCD backlight inverter
- ◆ Portable Devices
- ◆ Power supply
- ◆ Networking devices
- ◆ PC server
- ◆ Cooling fan system
- ◆ Storage system
- ◆ Telecom system
- ◆ Wireless base station
- ◆ White goods
- ◆ Game console
- ◆ Office equipment
- ◆ Digital camera
- ◆ Industrial equipment
- ◆ Medical equipment

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Electrical Characteristics

Part Number	Ampere Rating (A)	Voltage Rating Vac(V)	Breaking Capacity	Nominal Cold Resistance (Ohms)	I ² T Melting Integral(A ² .S)
SFE0500E	0.50	125	200A@125V _{AC}	0.320	0.280
SFE0600E	0.60	125		0.285	0.447
SFE0630E	0.63	125		0.256	0.538
SFE0700E	0.70	125		0.208	0.765
SFE0750E	0.75	125		0.175	1.178
SFE0800E	0.80	125		0.147	1.786
SFE1100E	1.0	125		0.125	2.708
SFE1125E	1.25	125		0.102	4.522
SFE1150E	1.5	125		0.085	5.990
SFE1200E	2.0	125		0.067	8.512
SFE1250E	2.5	125		0.048	15.224
SFE1300E	3.0	125		0.033	20.482
SFE1315E	3.15	125		0.029	21.613
SFE1350E	3.5	125		0.027	25.698
SFE1400E	4.0	125		0.025	30.218
SFE1500E	5.0	125		0.019	38.238
SFE1600E	6.0	125		0.018	63.883
SFE1630E	6.3	125		0.009	113.573
SFE1700E	7.0	125		0.008	126.141
SFE1750E	7.5	125		0.008	169.509
SFE1800E	8.0	125		0.007	223.421
SFE2100E	10.0	125		0.007	256.975
SFE2120E	12.0	125		0.007	314.944
SFE2150E	15.0	125		0.006	356.877

- ◆ DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C;
- ◆ Typical Pre-arching I²t are calculated at 10*I_n Current or 8ms;

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Material Details

Part Name	Material
End caps	Gold/Silver Plated Brass Cap
Body	Non-Transparent Square Ceramic Tube
Fuse element	Cu-Ag Alloy wire

Product Characteristics

Item	Content	Reference Standards
Product Marking	Brand, Ampere Rating	Socay marking standards
Operating Temperature	-55°C to 125°C	IEC60068-2-1/2
Solderability	T=240°C±5°C , t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
Vibration	0.03"amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
Moisture Resistance	10 cycles	MIL-STD-202, Method 106
Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

Electrical Characteristics

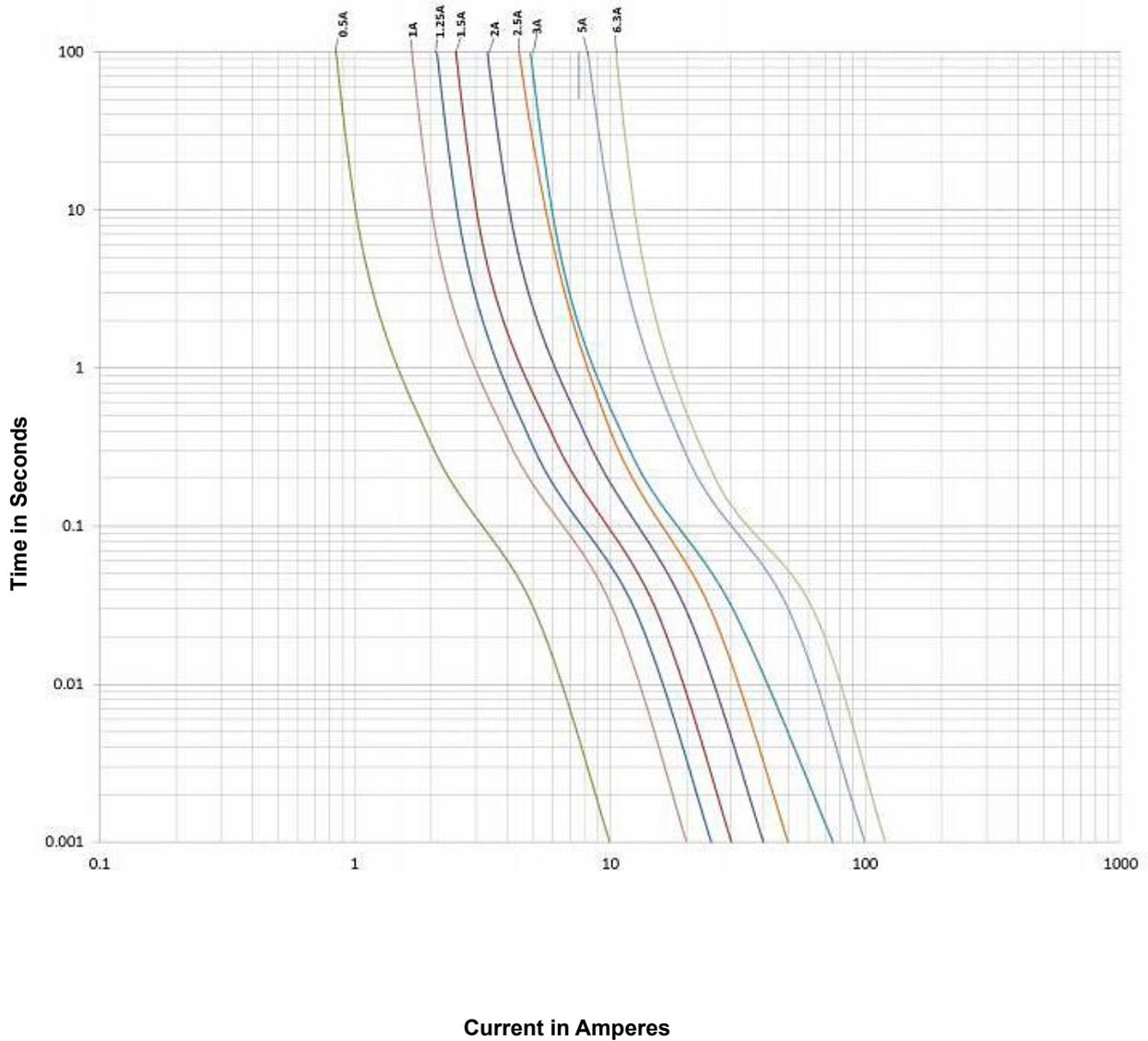
- ◆ Test Condition:
All electrical test is to be conducted with the ambient air at a temperature of 25±5°C.
- ◆ Interrupting Rating:
Breaking Capacity: 200A@125Vac.
- ◆ Operating Characteristics:

% of Ampere Rating(In)	Blowing Time
100% * In	4 hours Min
200% * In	120 secs Max

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Average Time Current Curves

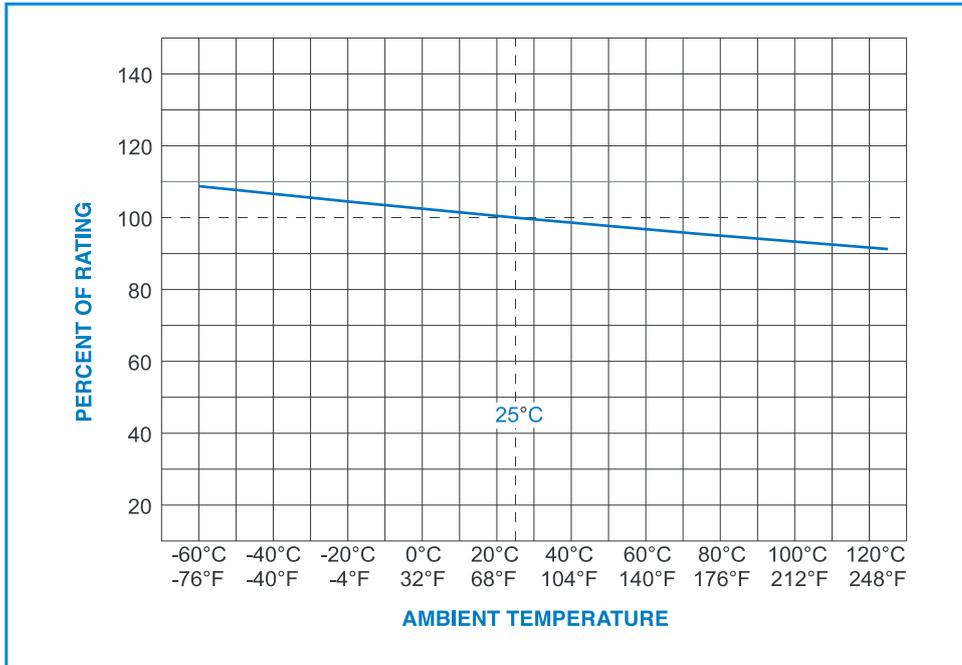


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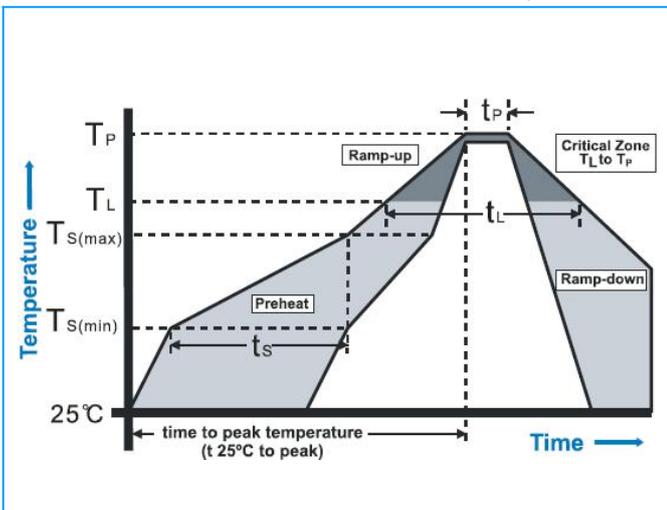
Environmental Characteristics

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from 20~30°C, engineer should consider the environmental temperature's affection to fuses. Please refer: Temperature Rerating Curve:



Recommended Soldering Parameters

- ◆ Wave / Reflow Soldering Parameters: Solder paste process; Solder Pot Temperature: 260°C Max;
- ◆ Solder Dwell Time: 5 seconds max.
- ◆ Hand-Solder Parameters: Solder Iron Temperature: 300±5°C; Heating Time: 1~2s Max.

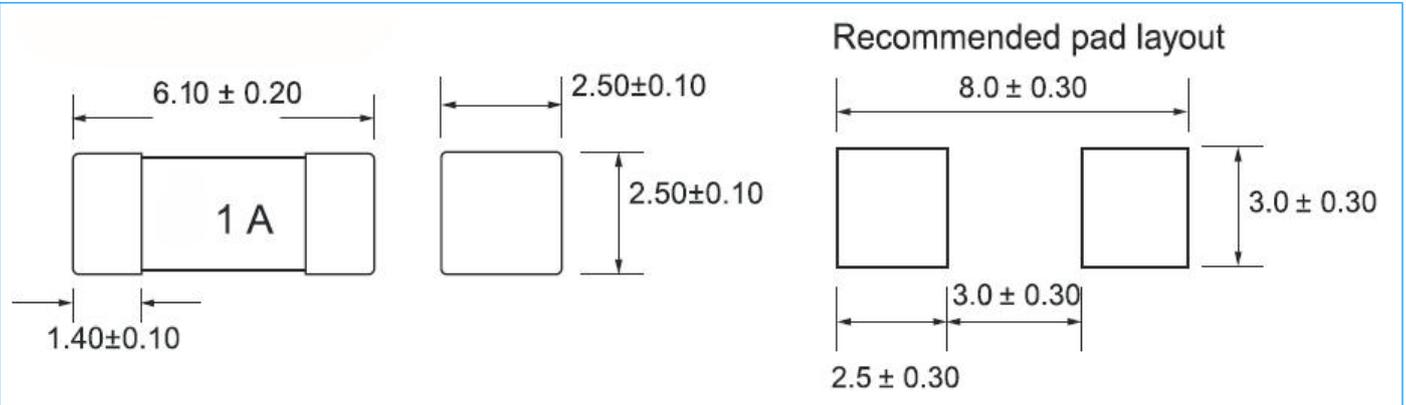


Reflow Condition		Pb-free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 -120 seconds
Average ramp up rate ($T_{s(max)}$ to T_p)		5°C /second max.
Reflow	- Temperature (T_L)	220°C
	- Time Max (t_L)	60 seconds
Peak Temperature (T_P)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max

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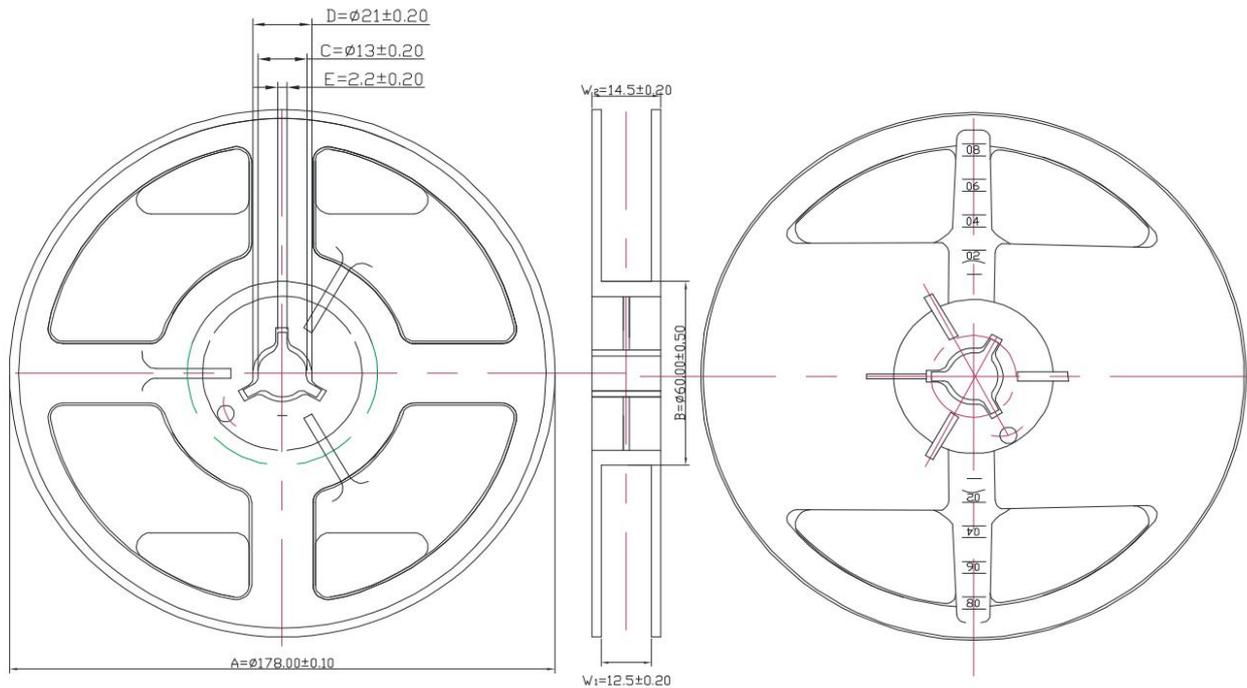
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Dimensions and Structure (Unit: mm)



Packaging (Unit: mm)

1500 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481

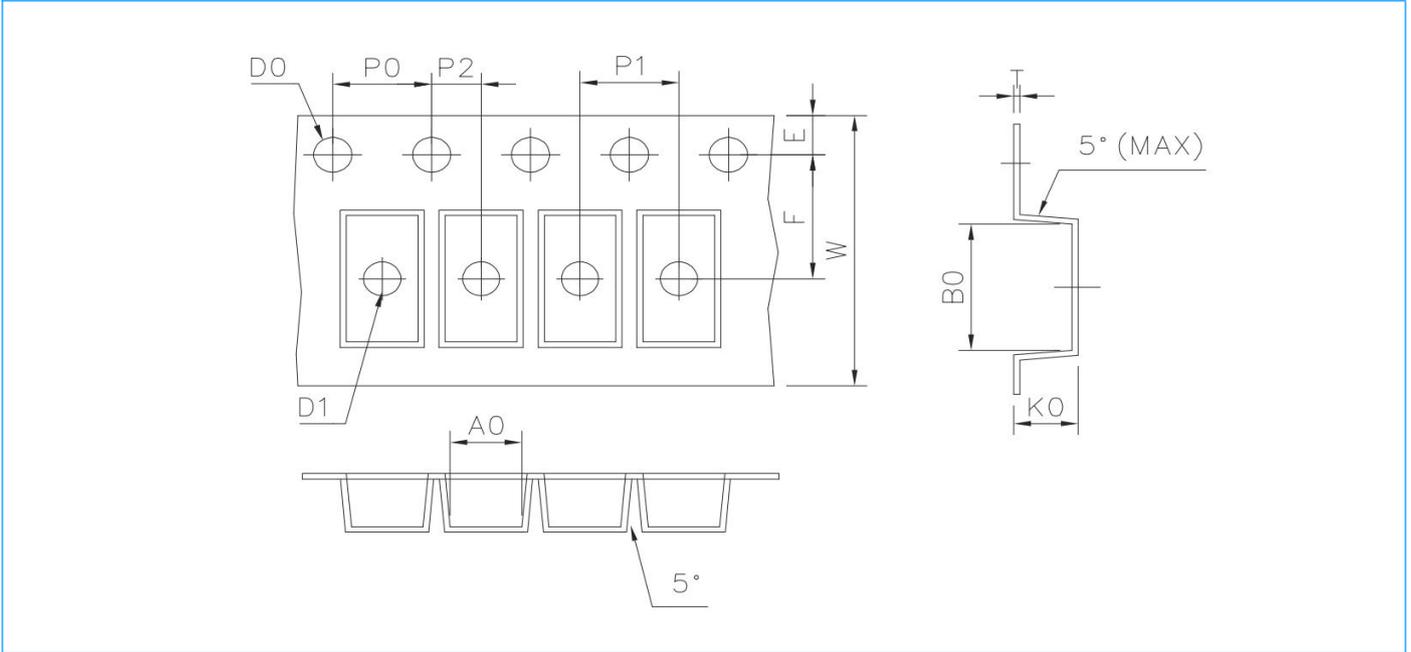


Symbol	A	B	C	D	E	W1	W2
Spec.(mm)	178±0.10	60±0.50	13±0.20	21±0.20	2.2±0.20	12.5±0.20	14.5±0.20

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Packaging (Unit: mm) (Continue)



Symbol	A0	B0	D0	D1	E	F
Spec.(mm)	2.70±0.10	6.40±0.10	1.50+0.10	1.50+0.25	1.75±0.10	5.50±0.10
Symbol	K0	P0	P1	P2	W	t
Spec.(mm)	2.70±0.10	4.00±0.10	4.00±0.10	2.00±0.10	12.00±0.15	0.25±0.05