



## SS52LF THRU SS510LF

VOLTAGE RANGE

20 to 100Volts

CURRENT

5.0 Ampere

## Features

- Low profile surface mount package
- Built-in strain relief
- High switching speed, low  $V_F$
- Low voltage drop, high efficiency
- For use in low voltage high frequency inverters, Free willing, and polarity protection applications
- Guarding for over voltage protection

SMAF



## Mechanical Data

- Case: Transfer molded plastic
- Epoxy :UL 94V-0 rate flame retardant
- Lead: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.00095ounce, 0.028grams

## Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER	SYMBOLS	SS 52LF	SS 53LF	SS 54LF	SS 55LF	SS 56LF	SS 58LF	SS 510LF	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	50	60	80	100	Volts
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	56	70	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	80	100	Volts
Maximum Average Forward Rectified Current at $T_L$ See figur.1 $T_L=85^\circ C$	$I_{(AV)}$	5.0							Amps
Peak Forward Surge Current 8.3mS single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	120							Amps
Maximum Instantaneous Forward Voltage @ 5.0A(Note 1)	$V_F$	0.45			0.55		0.65		Volts
Maximum DC Reverse Current at rated DC Blocking voltage per element	$T_A=25^\circ C$	10							mA
	$T_A=85^\circ C$	100							
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	55							$^\circ C/W$
	$R_{\theta JL}$	12							
Operating Junction Temperature	$T_J$	(-55 to +125)							$^\circ C$
Storage Temperature Rang	$T_{STG}$	(-55 to +150)							$^\circ C$

## Notes:

1. Pulse test:300 $\mu s$  pulse width,1% duty cycle
2. PCB mounted with 0.2"×0.2"(5.0cm×5.0cm)copper pads



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## Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

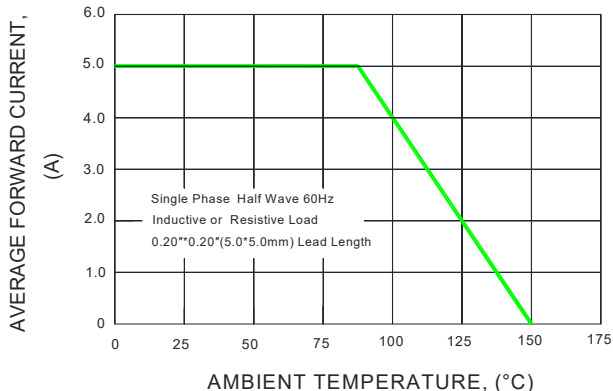


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

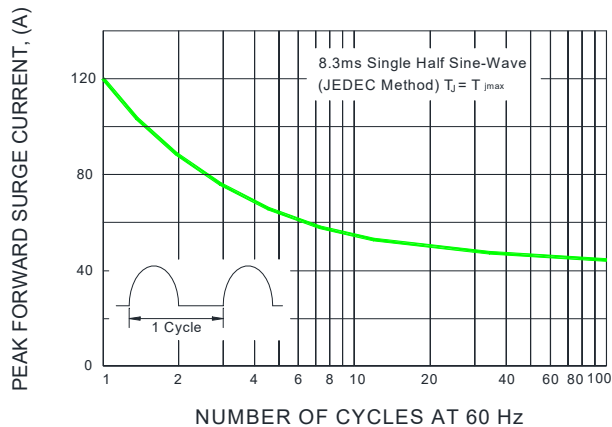


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

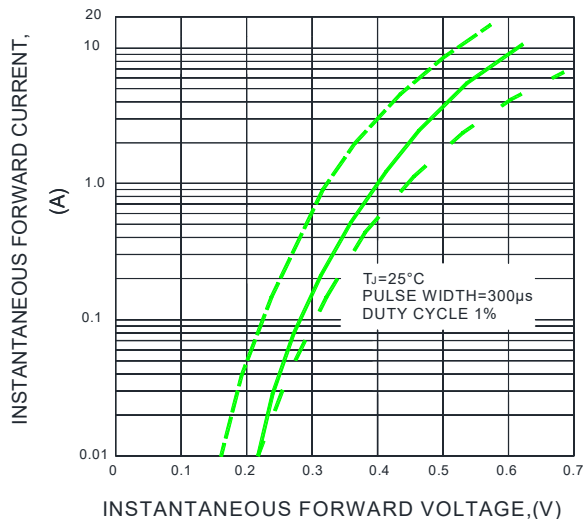


FIG.4-TYPICAL REVERSE CHARACTERISTICS

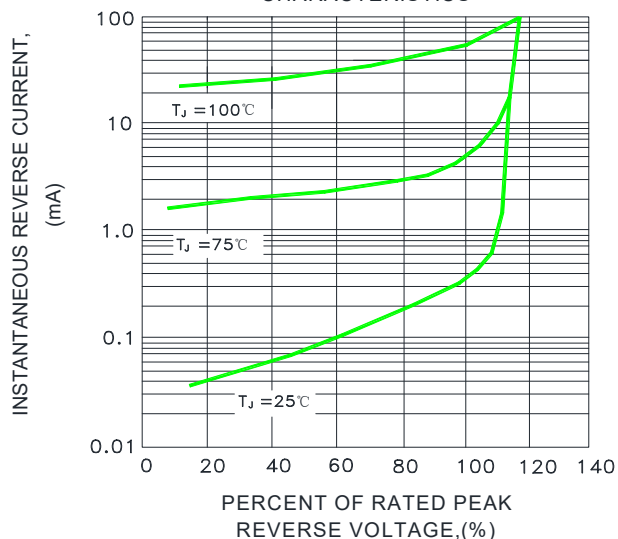
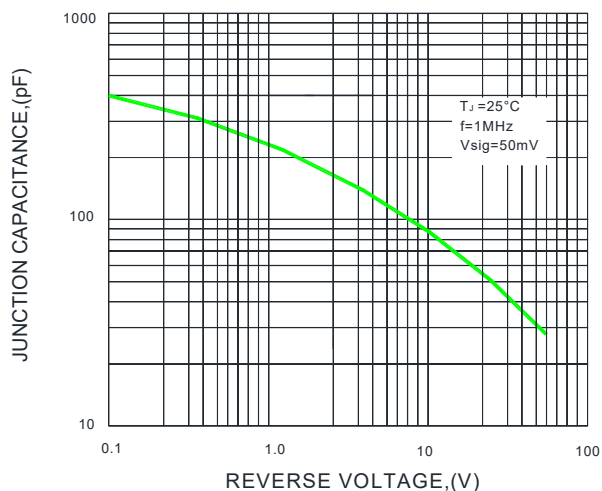


FIG.5-TYPICAL JUNCTION CAPACITANCE





SS52LF THRU SS510LF

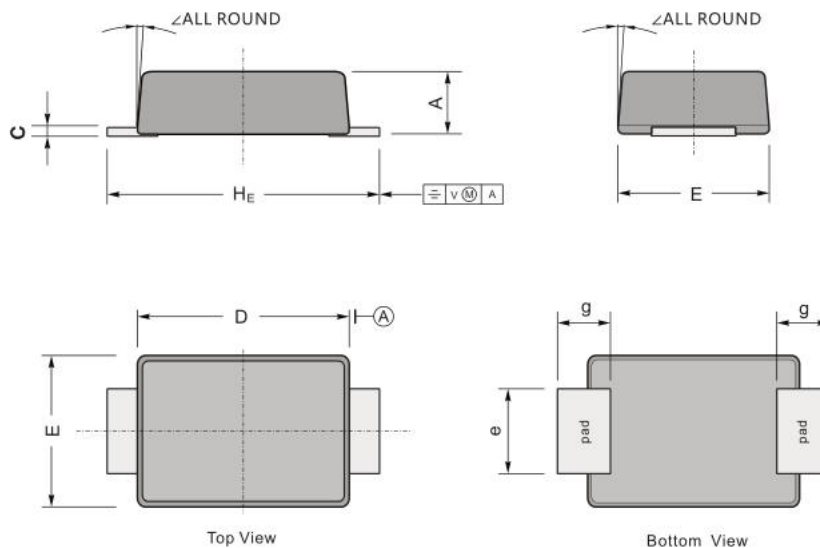
VOLTAGE RANGE

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Package Outline Dimensions in inches (millimeters)



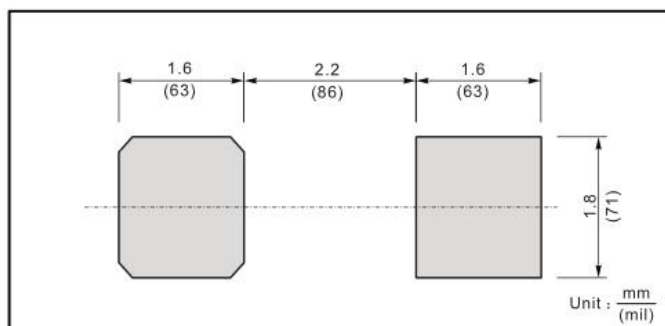
UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
mm	max	1.10	0.20	3.70	2.70	1.60	1.20	4.90	5-7°
	min	0.90	0.12	3.30	2.40	1.30	0.80	4.40	
mil	max	43	7.90	146	106	63	47	193	
	min	35	4.70	130	94	51	31	173	

The Recommended Mounting Pad Size

Marking

Type number	Marking code
SS52LF	SS52L
SS53LF	SS53L
SS54LF	SS54L
SS55LF	SS55L
SS56LF	SS56L
SS58LF	SS58L
SS510LF	SS510L

The recommended mounting pad size





SS52LF THRU SS510LF

VOLTAGE RANGE

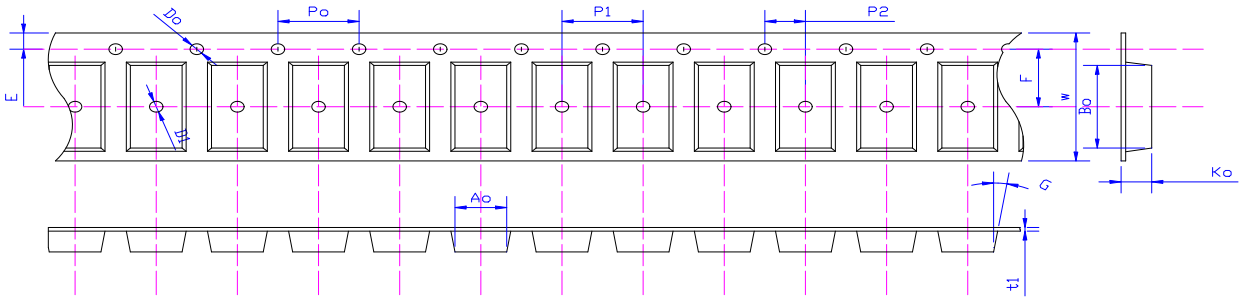
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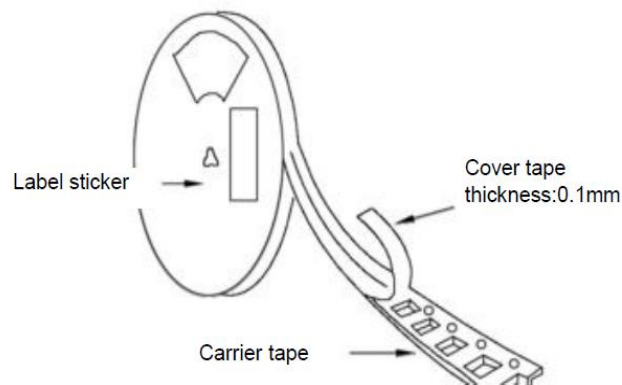
Packing Requirments

- PS black anti-static carrier tape packing



Specifications	Ao	Bo	Ko	Po	W	t1
SMAFL	2.83±0.10	4.90±0.10	1.45±0.10	4.00±0.1	12.0±0.05	0.23±0.02

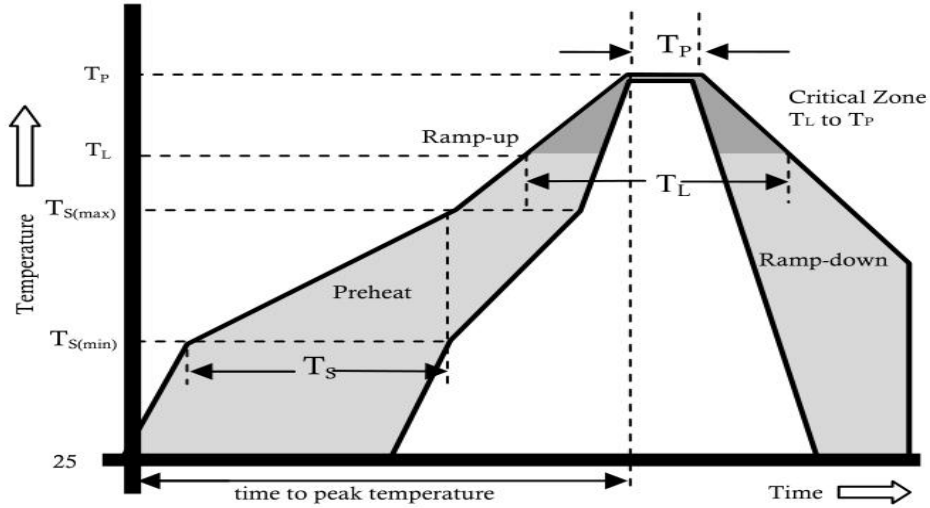
- 13 "antistatic plastic reel



DEVICE TYPE	13" Reel			
	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOON	Q'TY/CARTON(pcs)
SMAFL	10000	2	8	160000



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T <sub>L</sub> ) to peak)		3°C/sec. Max.
T <sub>S</sub> (max) to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T <sub>L</sub> )(Liquidus)	+217°C
	Temperature (T <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>P</sub> )		+(260+0/-5) °C
Time within 5°C of actual Peak Temp (T <sub>P</sub> )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T <sub>P</sub> )		8 min. Max.
Do not exceed		+260°C

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