



## SS32LF THRU SS310LF

VOLTAGE RANGE 20 to 100 Volts

CURRENT 3.0 Ampere

## Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260 C/10 seconds at terminals

SMAFL



## 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	SYMBOL	SS 32LF	SS 34LF	SS 35LF	SS 36LF	SS 38LF	SS 310LF	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	50	60	80	100	Volts
Maximum RMS Voltage	$V_{RMS}$	14	28	35	42	56	70	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	40	50	60	80	100	Volts
Maximum Average Forward Rectified Current at $T_L$ see figure 1 $T_L=100^\circ\text{C}$	$I_{(AV)}$	3.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	80						Amps
Maximum Instantaneous Forward Voltage @ 3.0A <sup>(Note1)</sup>	$V_F$	0.45	0.55		0.70		Volts	
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	0.5			0.3		mA	
	$T_A = 125^\circ\text{C}$	20			10			
Typical Thermal Resistance <sup>(Note 2)</sup>	$R_{\theta JA}$	55						$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	25						
Diode junction capacitance <sup>(Note 3)</sup>	$C_j$	60						pF
Operating Junction Temperature	$T_j$	-55 to +150						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150						$^\circ\text{C}$

## Notes:

1. Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle.
2. Thermal resistance from Junction to ambient and from junction to lead mounted on PCB. with 0.3 $\times$ 0.3" (8.0  $\times$  8.0mm) copper pad areas.
3. f=1MHz and applied 4V DC reverse voltage.



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Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

FIG.1—TYPICAL FORWARD CURRENT DERATING CURVE

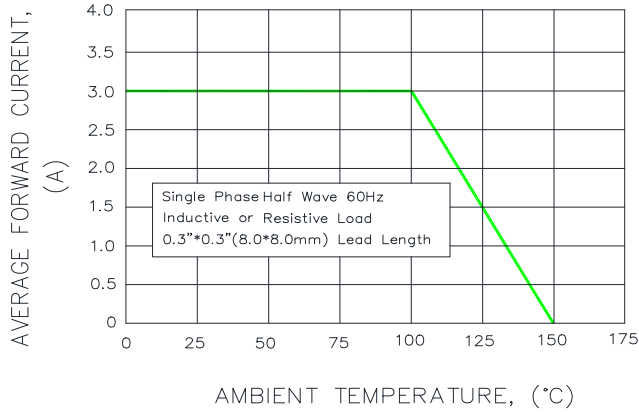


FIG.2—MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

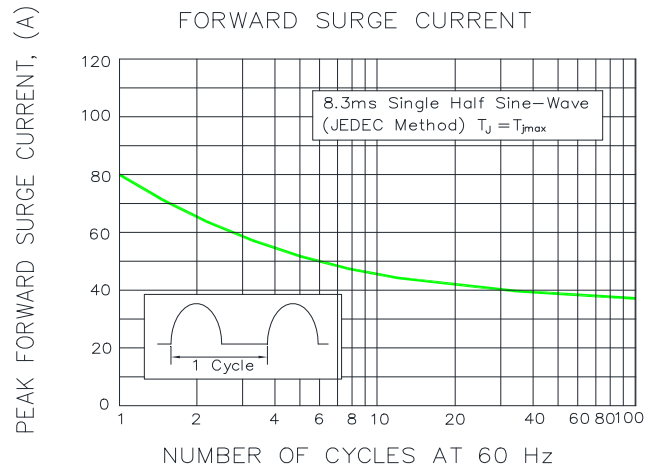


FIG.3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

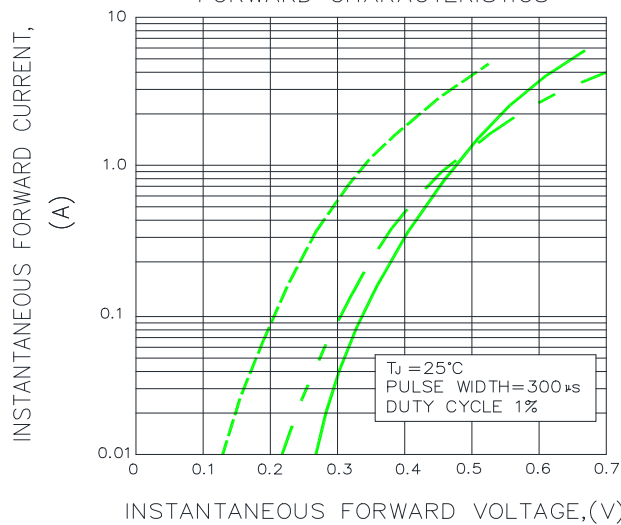


FIG.4—TYPICAL REVERSE CHARACTERISTICS

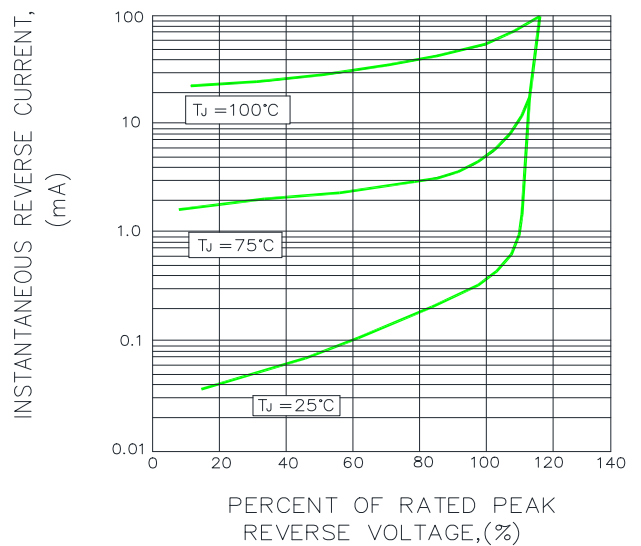
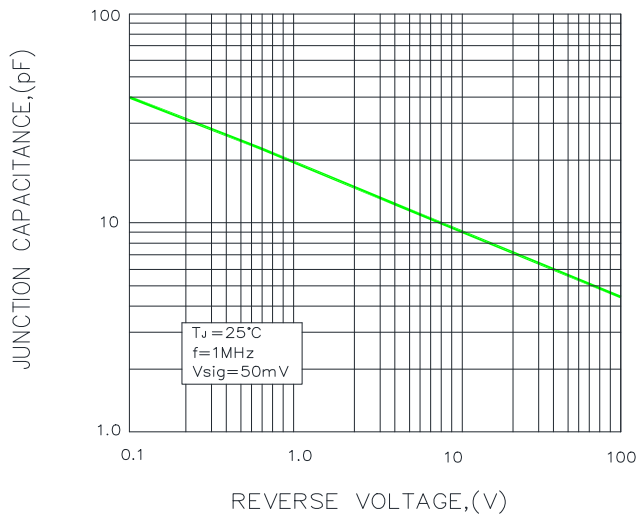
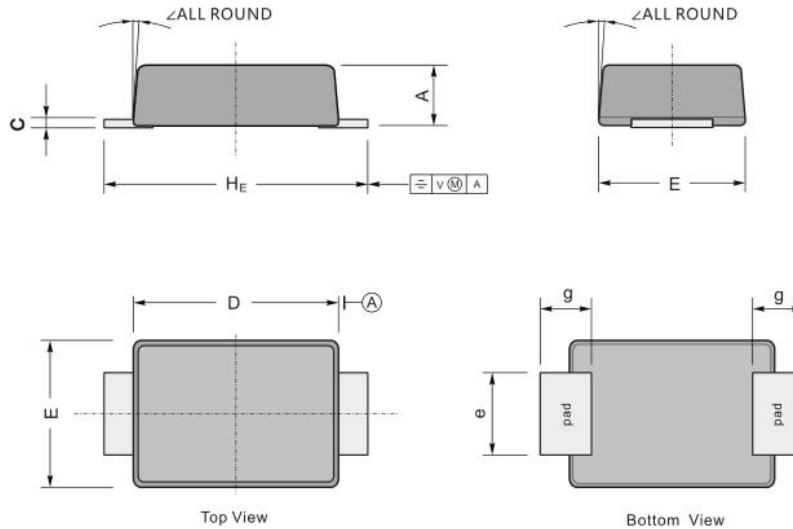


FIG.5—TYPICAL JUNCTION CAPACITANCE





Package Outline Dimensions in inches (millimeters)



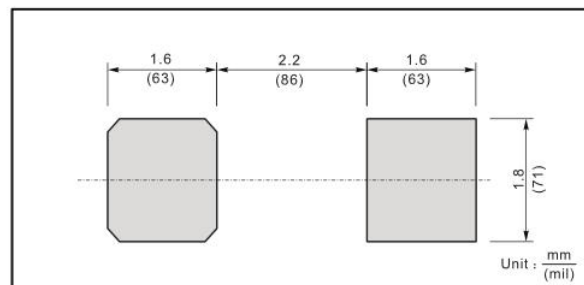
UNIT		A	C	D	E	e	g	H <sub>E</sub>	$\angle$
mm	max	1.10	0.20	3.70	2.70	1.60	1.20	4.90	5-7°
	min	0.90	0.12	3.30	2.40	1.30	0.80	4.40	
mil	max	43	7.90	146	106	63	47	193	
	min	35	4.70	130	94	51	31	173	

The Recommended Mounting Pad Size

Marking

Type number	Marking code
SS32LF	SS32LF
SS34LF	SS34LF
SS35LF	SS35LF
SS36LF	SS36LF
SS38LF	SS38LF
SS310LF	SS310LF

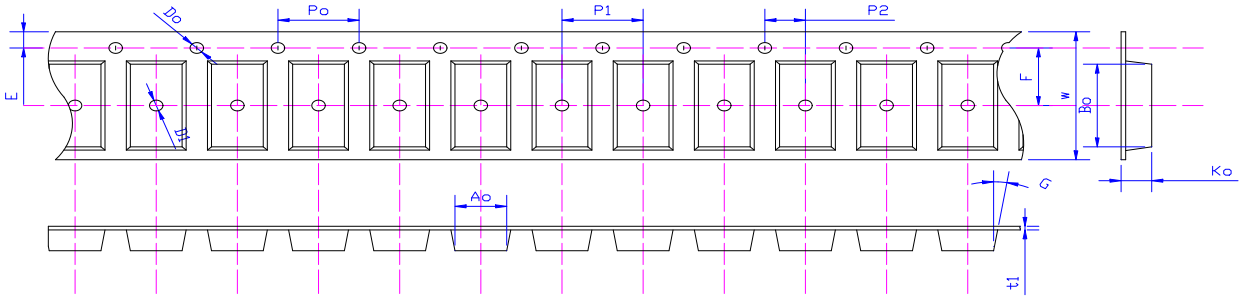
The recommended mounting pad size





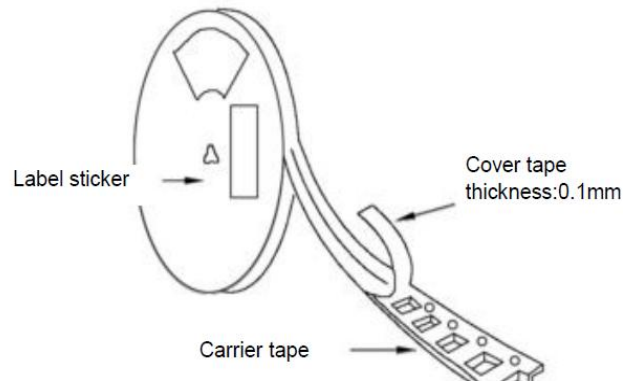
Packing Requirments

- 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

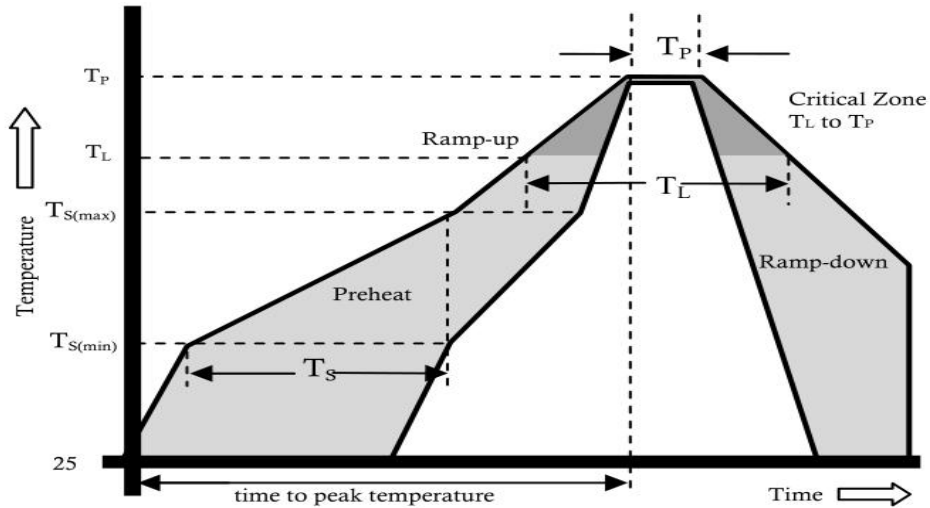
- 13 "antistatic plastic reel



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( $T_L$ ) to peak)		3°C/sec. Max.
$T_S$ (max) to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+(260+0/-5)°C
Time within 5°C of actual Peak Temp ( $T_p$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_p$ )		8 min. Max.
Do not exceed		+260°C



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