



SS32F THRU SS320F

VOLTAGE RANGE 20 to 200 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 32F	SS 34F	SS 35F	SS 36F	SS 38F	SS 310F	SS 315F	SS 320F	UNIT	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	50	60	80	100	150	200	Volts	
Maximum RMS Voltage	V_{RMS}	14	28	35	42	56	70	105	140	Volts	
Maximum DC Blocking Voltage	V_{DC}	20	40	50	60	80	100	150	200	Volts	
Maximum Average Forward Rectified Current at T_J see figure 1 $T_J = 100^\circ\text{C}$	$I_{(AV)}$	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 ^(Note1)	V_F	0.55	0.70	0.85	0.90					Volts	
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	0.1							0.01	mA	
	$T_A = 125^\circ\text{C}$	20.0				10.0		2.0			
Typical Thermal Resistance ^(Note 2)	$R_{\theta JA}$	55								°C/W	
	$R_{\theta JL}$	25									
Diode junction capacitance ^(Note 3)	C_J	300	200							pF	
Operating Junction Temperature	T_J	-55 to +150							-65 to +175		°C
Storage Temperature Range	T_{STG}	-55 to +150								°C	

Notes:

1. Pulse test: 300µs pulse width, 1% duty cycle.
2. Unit mounted on P.C.B. with 0.20"×0.20" (5.00mm×5.00mm) copper pads.
3. $f = 1\text{MHz}$ and applied 4V DC reverse voltage.

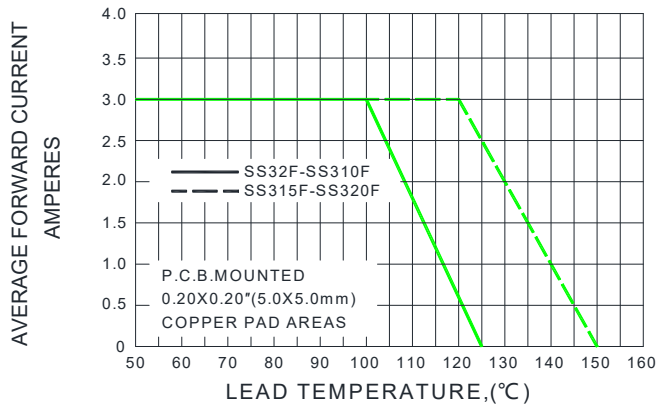
Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)



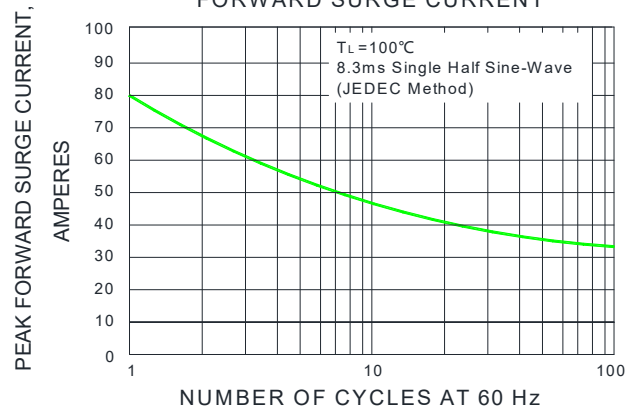
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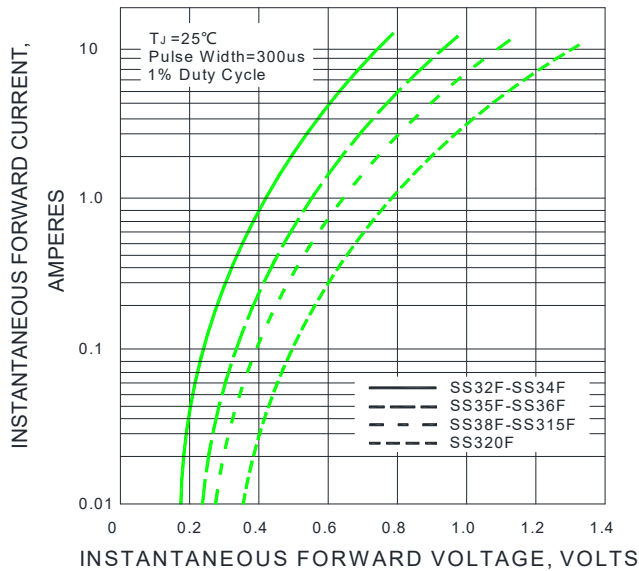
F1G.1-FORWARD CURRENT DERATING CURVE



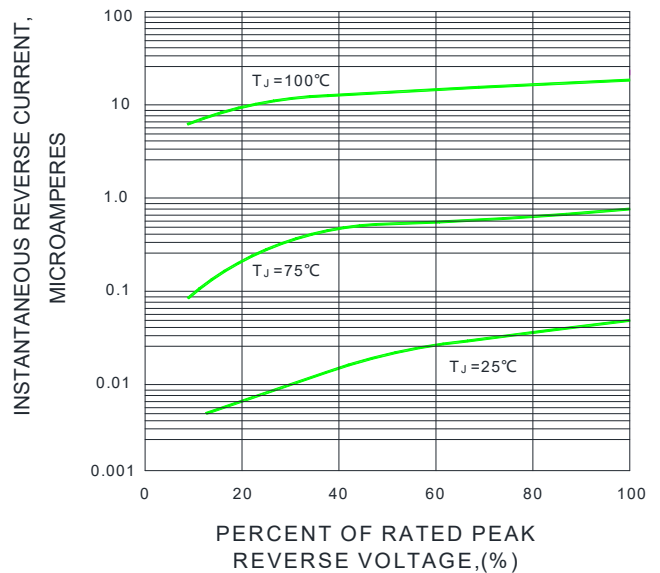
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



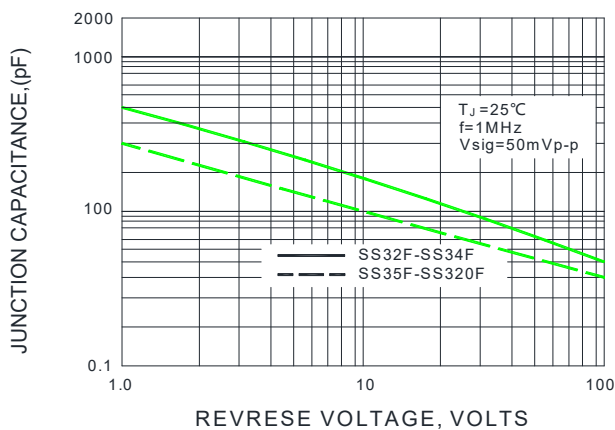
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



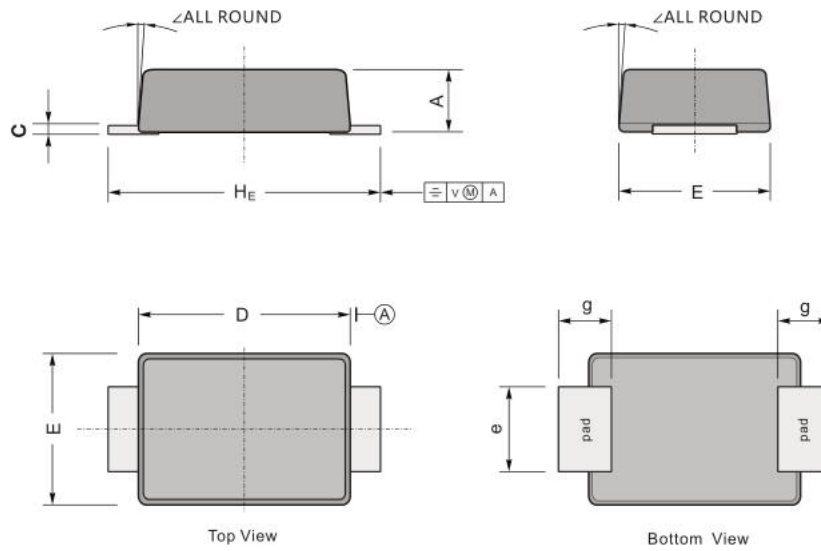
F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



Package Outline Dimensions in inches (millimeters)



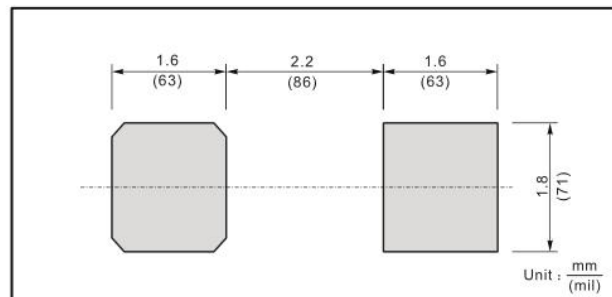
UNIT		A	C	D	E	e	g	H _E	L
mm	max	1.10	0.20	3.70	2.70	1.60	1.20	4.90	5-7°
	min	0.90	0.12	3.30	2.40	1.30	0.80	4.40	
mil	max	43	7.90	146	106	63	47	193	
	min	35	4.70	130	94	51	31	173	

The Recommended Mounting Pad Size

Marking

Type number	Marking code
SS32F	SS32F
SS34F	SS34F
SS35F	SS35F
SS36F	SS36F
SS38F	SS38F
SS310F	SS310F
SS315F	SS315F
SS320F	SS320F

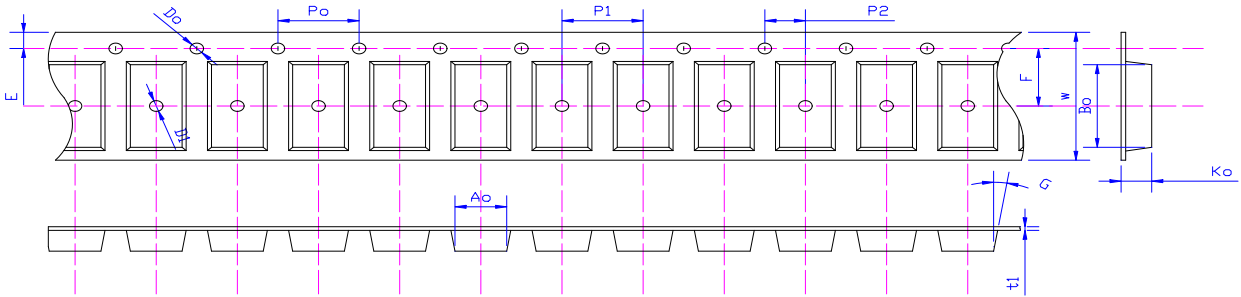
The recommended mounting pad size





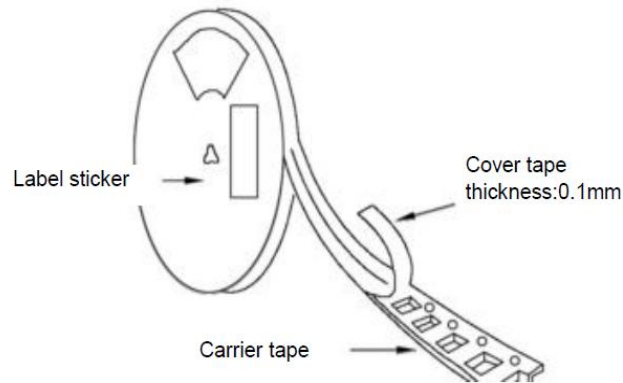
Packing Requirments

- PS black anti-static carrier tape packing



Specifications	A_o	B_o	K_o	P_o	W	t_1
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

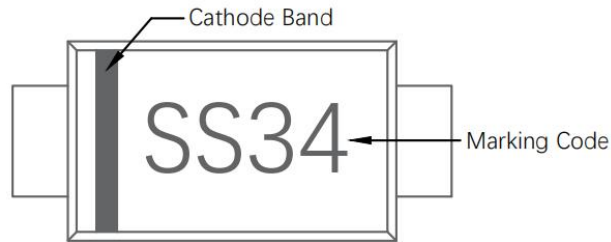


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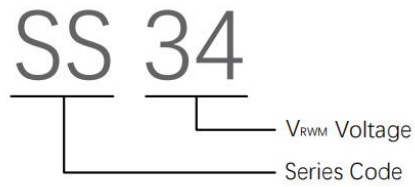
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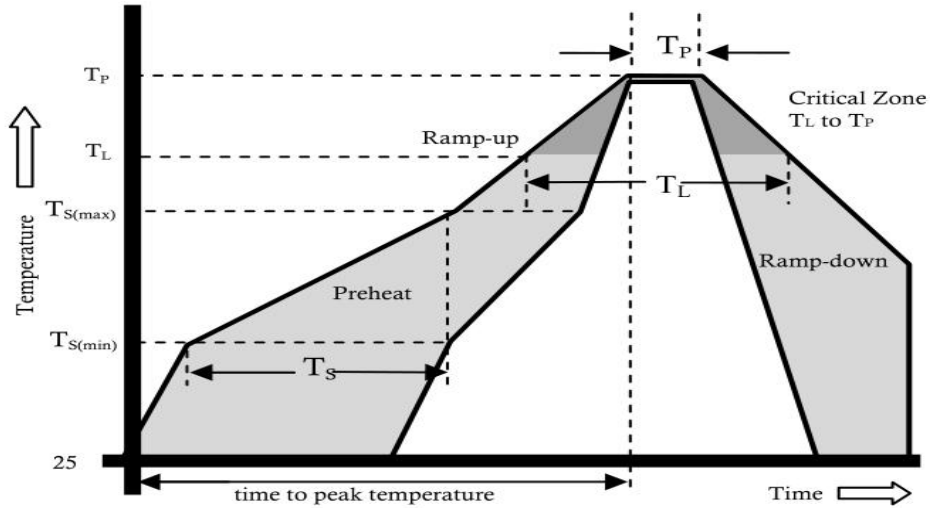


Part Number Code





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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Disclaimer

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