



SS310L

VOLTAGE RANGE

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



DO-214AA (SMB J-Bend)

## 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: 0.003ounce, 0.093 gram

## 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	SS310L	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	Volts
Maximum RMS Voltage	$V_{RMS}$	70	Volts
Maximum DC Blocking Voltage	$V_{DC}$	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>	$V_F$	0.62	Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	0.3	mA
	$T_A = 125^\circ\text{C}$	10	
Typical Thermal Resistance <sup>(Note 2)</sup>	$R_{\theta JA}$	50	$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	15	
Diode junction capacitance <sup>(Note 3)</sup>	$C_J$	200	pF
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

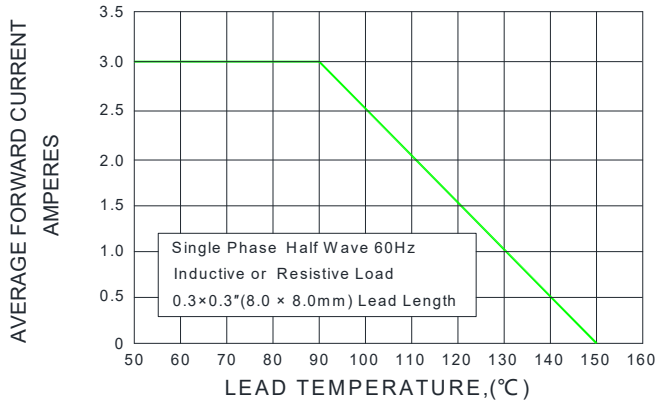
Notes:

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.  $f=1\text{MHz}$  and applied 4V DC reverse voltage.

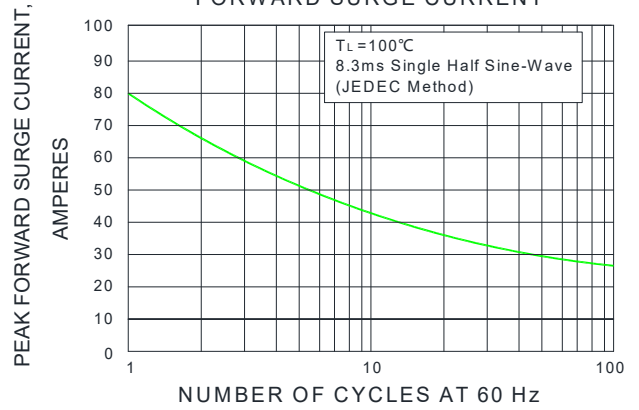


Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

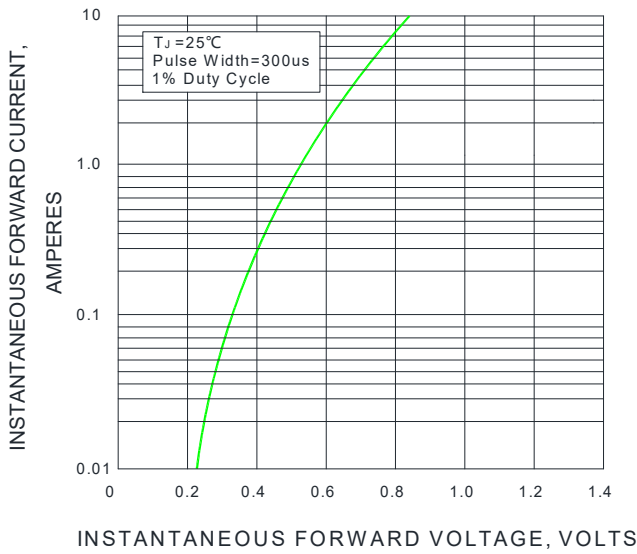
F1G.1-FORWARD CURRENT DERATING CURVE



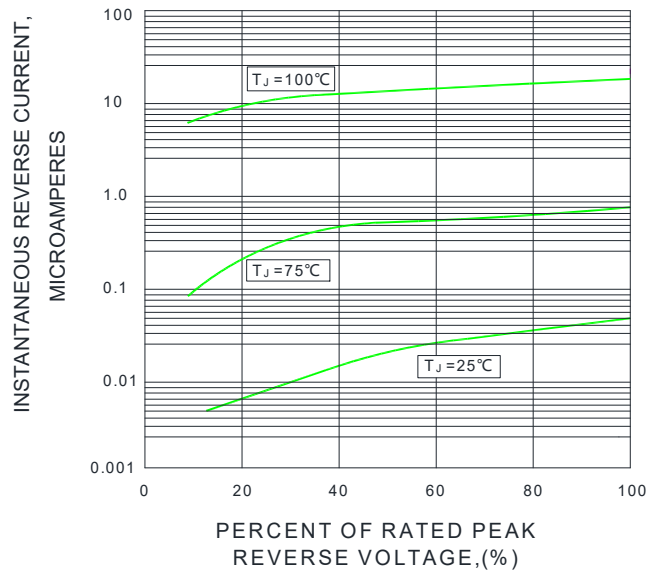
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



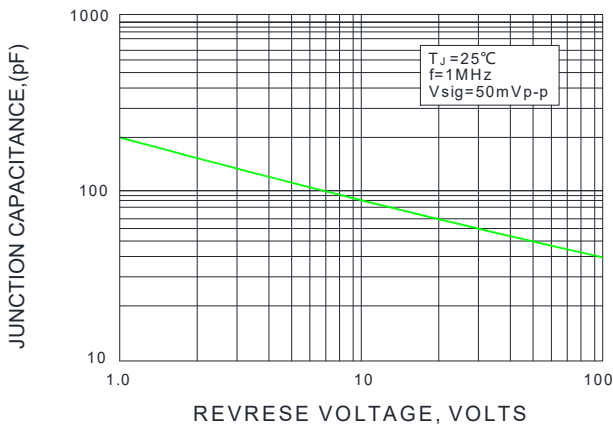
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



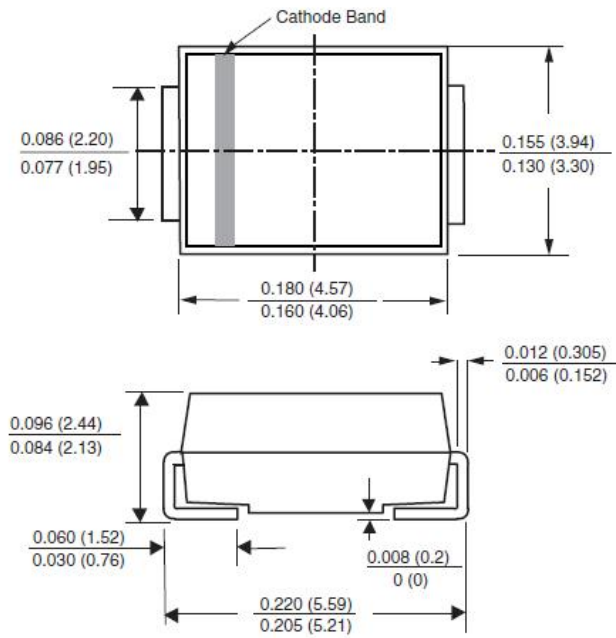


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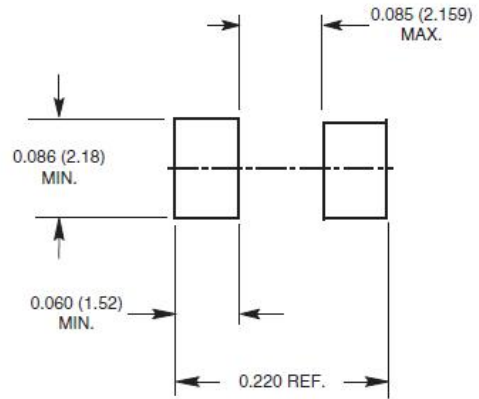
VOLTAGE RANGE 100 Volts  
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Package Outline Dimensions in inches (millimeters)

DO-214AA (SMB-J-Bend)



Mounting Pad Layout





# SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SS310L

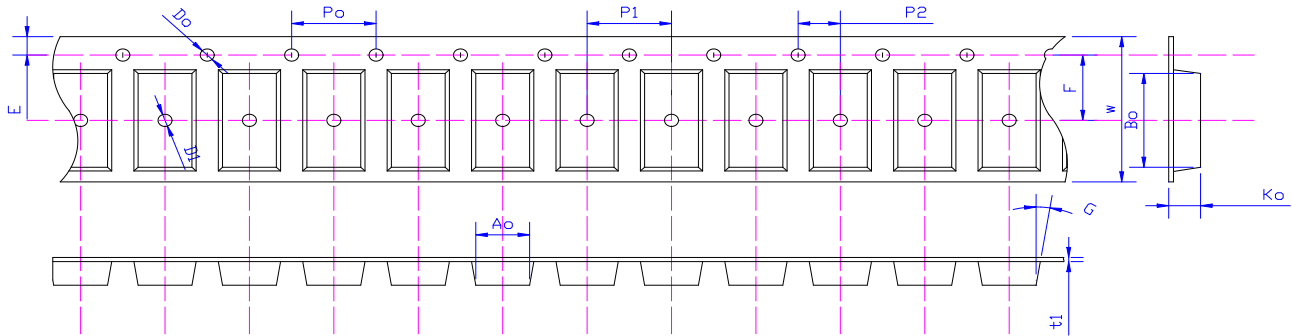
VOLTAGE RANGE

100 Volts

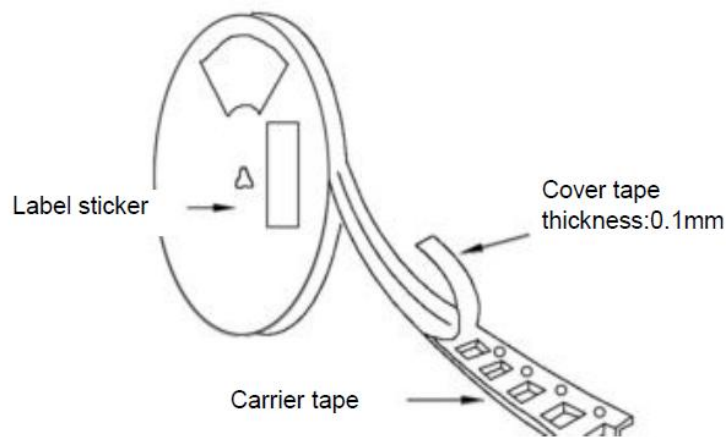
CURRENT

3.0 Ampere

## Package Reel Information



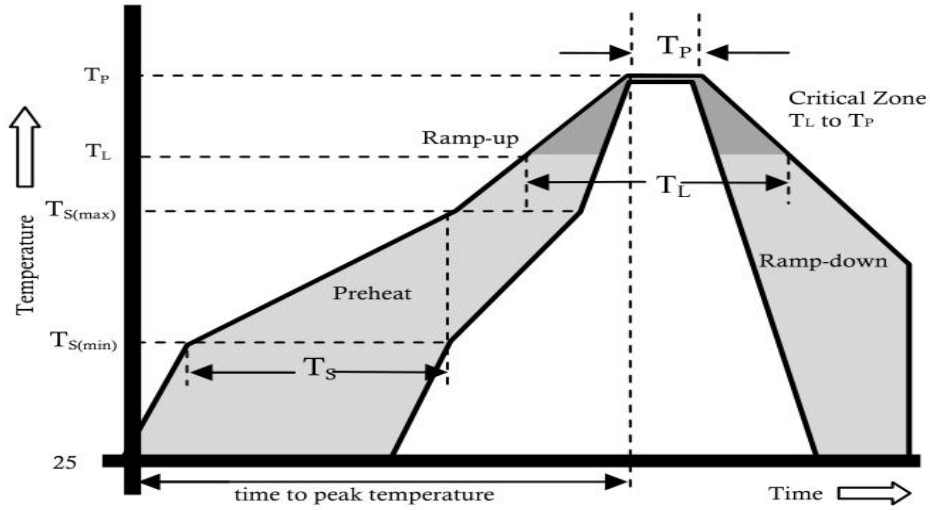
Specifications	Ao	Bo	Ko	Po	W	t1
SMB	3.77±0.10	5.70±0.10	2.67±0.10	4.00±0.1	12.0±0.05	0.23±0.02



DEVICE TYPE	Tape Width	13" Reel			07" Reel			
		Q'TY/REEL(pcs)	BOX/CARTOON	Q'TY/CARTON(pcs)	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOON	Q'TY/CARTON(pcs)
SMB	12mm	3000	8	48000	NA	NA	NA	NA



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 ( $T_I$ )	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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