



## SS52LB THRU SS510LB

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 wheeling, and polarity protection applications
- Guarding for over voltage protection



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	SYMB OLS	SS 52LB	SS 53LB	SS 54LB	SS 55LB	SS 56LB	SS 58LB	SS 510LB	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 $T_L=105^\circ\text{C}$	$I_{(AV)}$	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 <sup>(Note 1)</sup>	$V_F$	0.45		0.55		0.65		Volts	
Maximum DC Reverse Current at rated DC Blocking voltage per element	$T_A=25^\circ\text{C}$	10							mA
	$T_A=125^\circ\text{C}$	100							
Typical Thermal Resistance <sup>(Note 2)</sup>	$R_{\theta JA}$	55							$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	12							
Operating Junction Temperature	$T_J$	-65 to +150							$^\circ\text{C}$
Storage Temperature Rang	$T_{STG}$	-65 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



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

FIG.1—TYPICAL FORWARD CURRENT DERATING CURVE

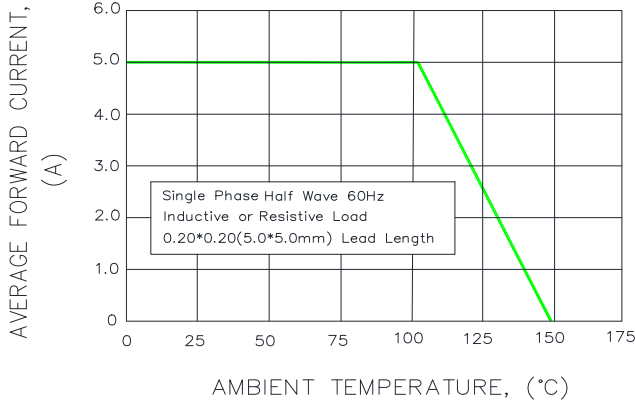


FIG.2—MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

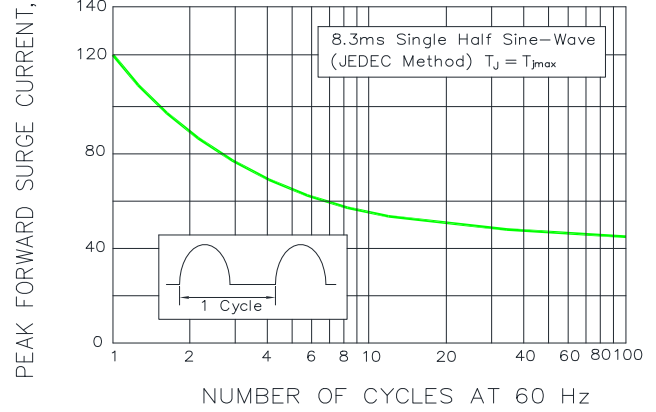


FIG.3—TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

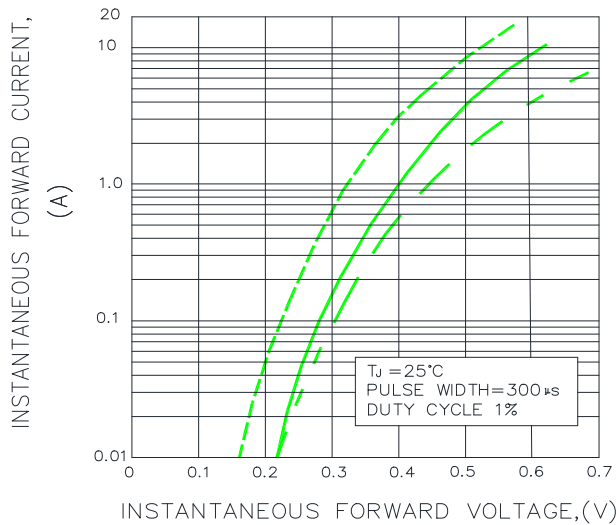


FIG.4—TYPICAL REVERSE CHARACTERISTICS

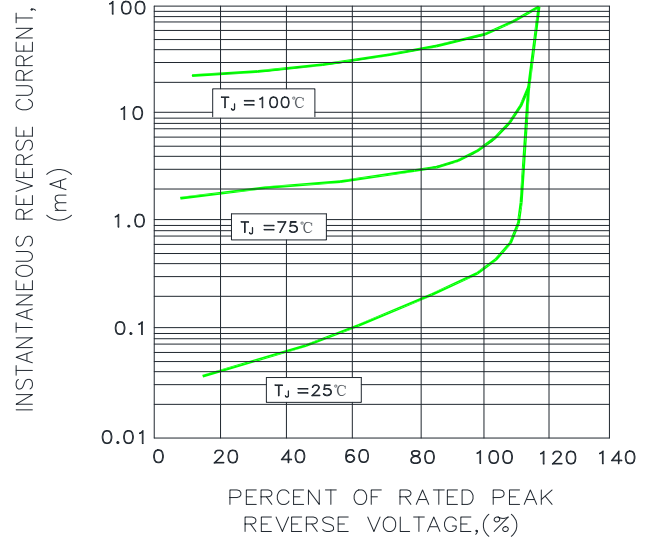
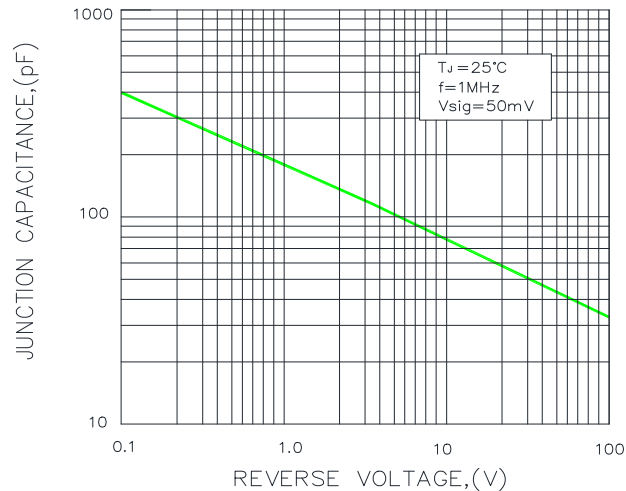


FIG.5—TYPICAL JUNCTION CAPACITANCE

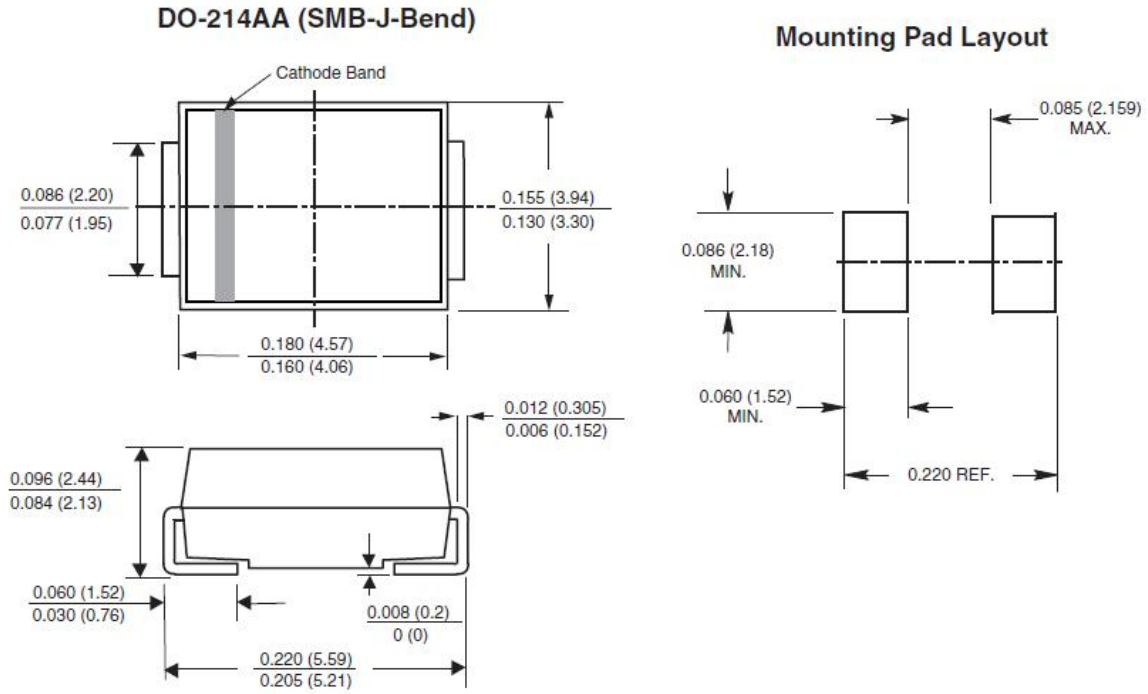




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Package Outline Dimensions in inches (millimeters)

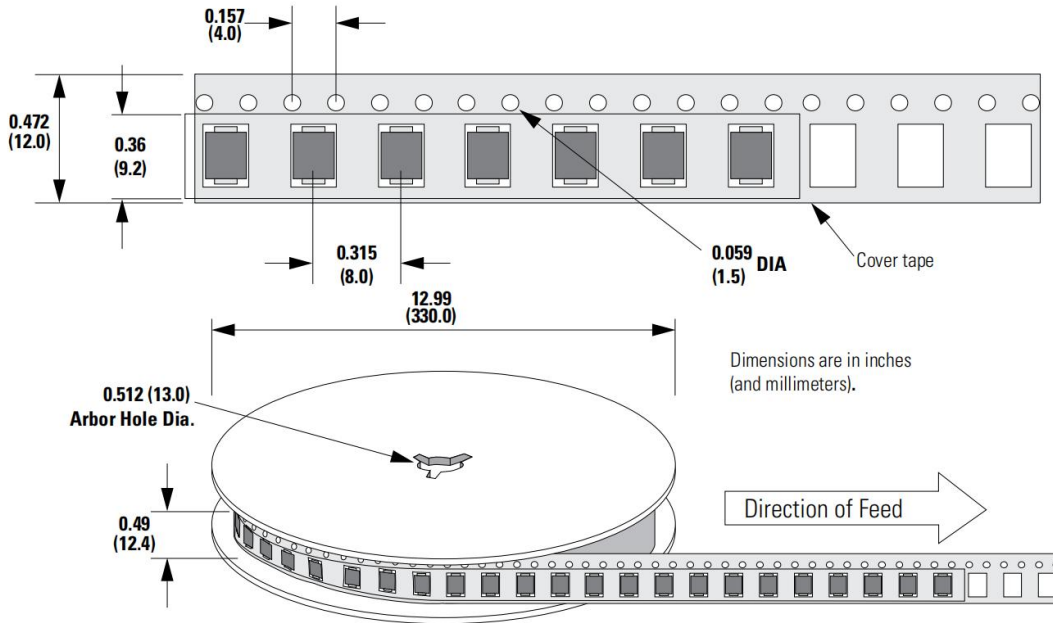




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Package Reel Information



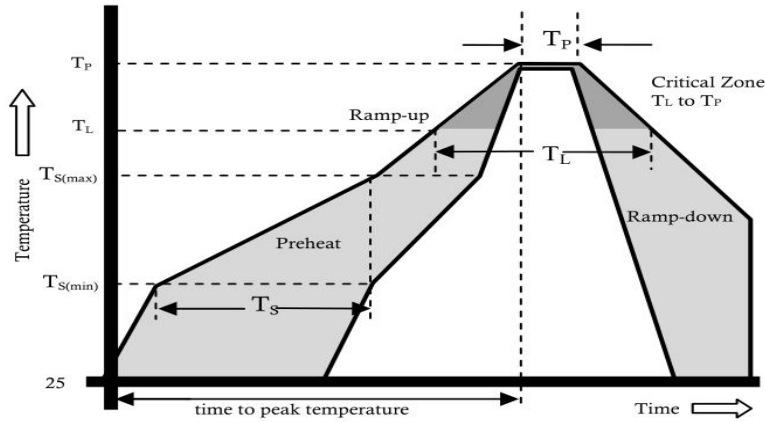
DEVICE TYPE	Tape Width	13" Reel			07" Reel			
		Q'TY/REEL(pcs )	BOX/CARTOO N	Q'TY/CARTON (pcs)	Q'TY/REEL(pcs )	REEL/BOX	BOX/CARTOO N	Q'TY/CARTON (pcs)
SMB	12mm	3000	8	48000	NA	NA	NA	NA



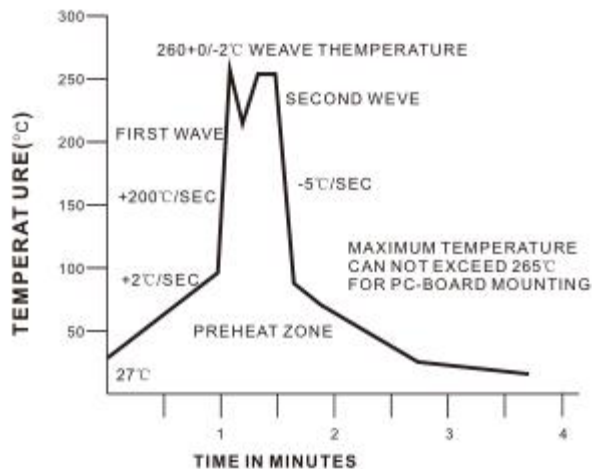
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Reflow Profile



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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