



## S8A THRU S8M

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

8.0 Ampere

## Features



- Plastic package has underwrites laboratory flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass Passivated chip junction
- High temperature soldering: 250°C/10 second at terminals



DO-214AB (SMC)

## Mechanical Data

- Case: JEDED SMC (DO-214AB) molded plastic
- Terminals: Plated axial lead solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.007 ounce, 0.21 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	S8A	S8B	S8D	S8G	S8J	S8K	S8M	UNIT
Maximum Reverse Peak Repetitive Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current, 0.06"(1.5mm) lead length at $T_C=110^\circ\text{C}$	$I_{(AV)}$	8.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	220							Amps
Maximum Instantaneous Forward Voltage drop Per Bridge element 8.0A	$V_F$	1.1							Volts
Maximum Reverse Current at rated DC blocking voltage per element	$T_A=25^\circ\text{C}$	5							$\mu\text{Amps}$
	$T_A=125^\circ\text{C}$	50							
Typical junction capacitance <sup>(NOTE 1)</sup>	$C_J$	30							pF
Typical Thermal Resistance <sup>(NOTE 2)</sup>	$R_{\theta JL}$	48							$^\circ\text{C/W}$
	$R_{\theta JA}$	15							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	(-55 to +150)							$^\circ\text{C}$

## Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on P.C.B. with 0.3×0.3"(8.0 × 8.0mm) copper pads.



# SURFACE MOUNT FAST SWITCHING RECTIFIER

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

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

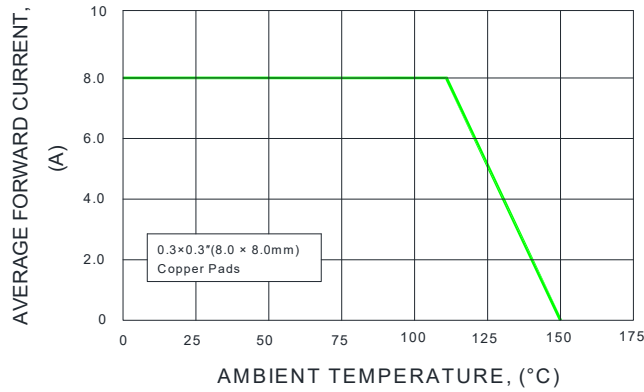


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

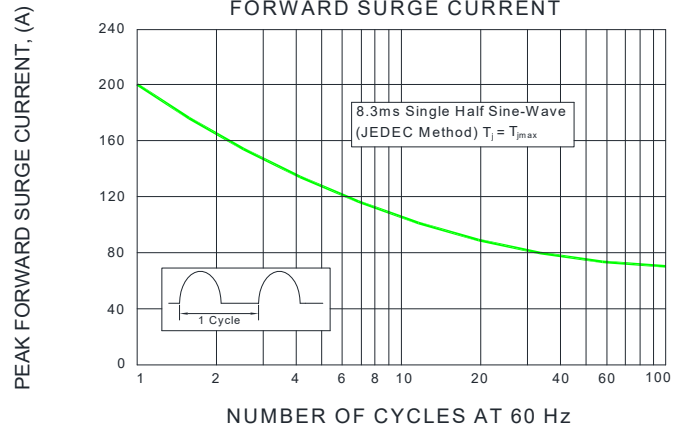


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

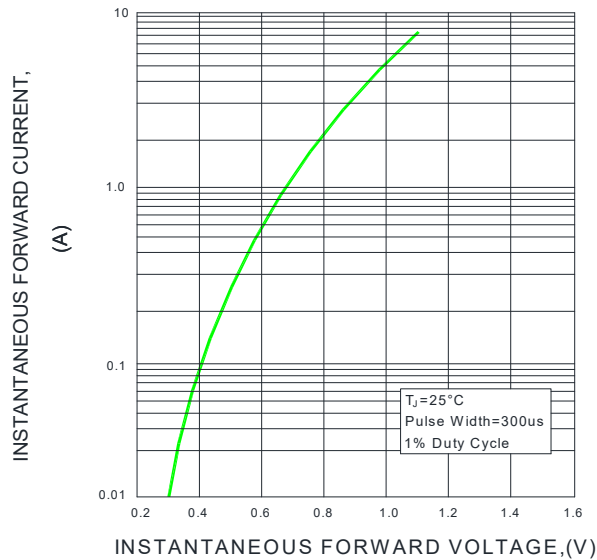


FIG.4-TYPICAL REVERSE CHARACTERISTICS

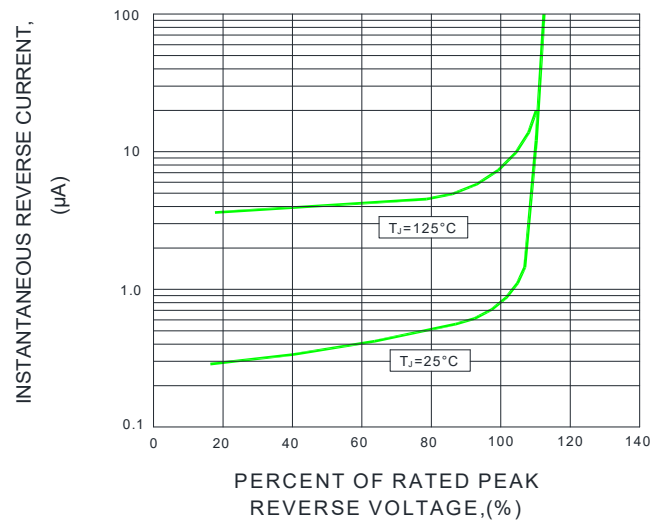
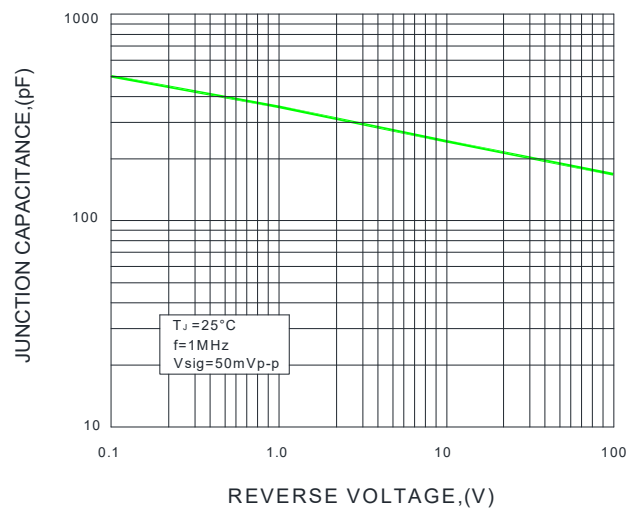


FIG.5-TYPICAL JUNCTION CAPACITANCE



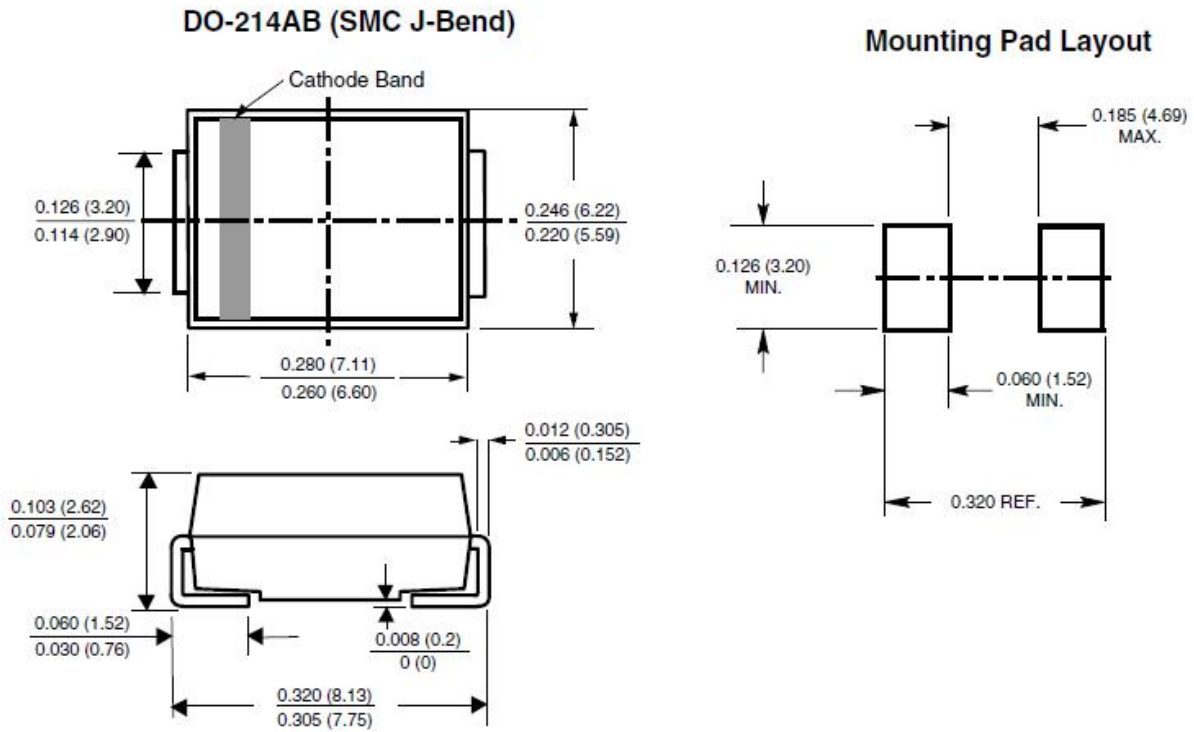


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Package Outline Dimensions in inches (millimeters)



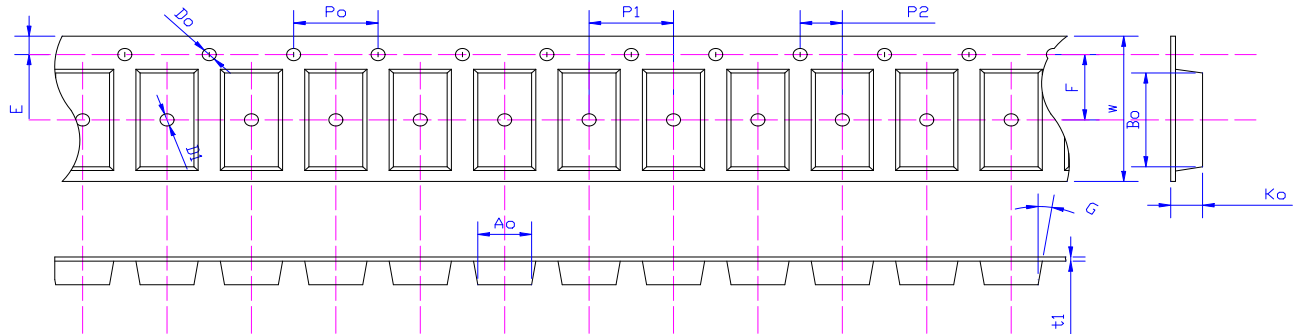


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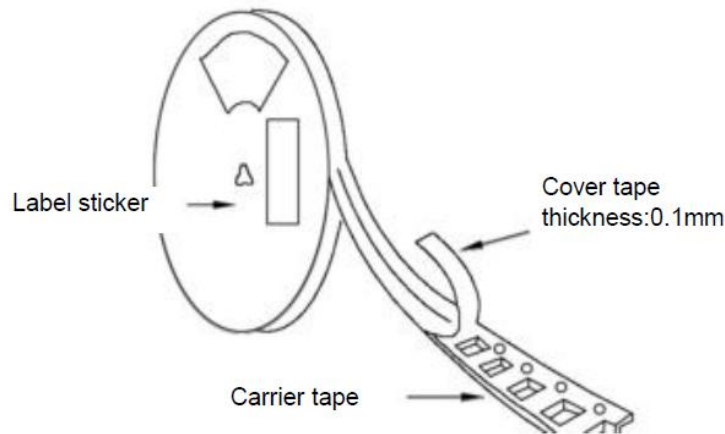
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## Package Reel Information



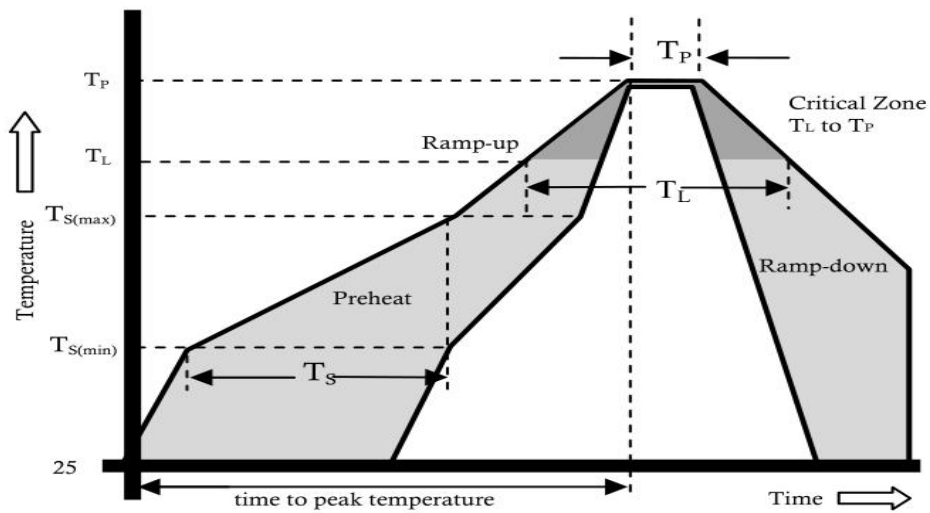
Specifications	Ao	Bo	Ko	Po	W	t1
SMC	6.05±0.10	8.31±0.10	2.54±0.10	4.00±0.1	16.0±0.30	0.30±0.02



DEVICE TYPE	Tape Width	13"Reel			07"Reel			
		Q'TY/REEL(pcs)	BOX/CARTON	Q'TY/CARTON(pcs)	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTON	Q'TY/CARTON(pcs)
SMC	16mm	3000	8	48000	800	3	8	19200



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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