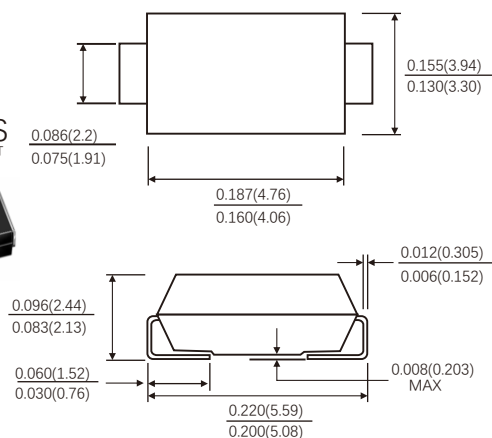


### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



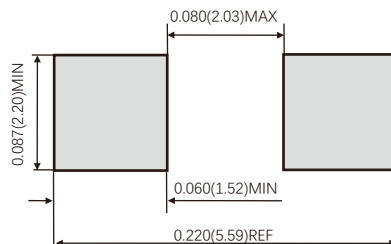
### SMB(DO-214AA)



### MECHANICAL DATA

- Case: JEDEC SMB(DO-214AA) molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.003ounce, 0.093 gram

### Suggested PAD Layout



Dimensions in inches and (millimeters)

### TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

### MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	60	V
Maximum average forward rectified current (see fig.1)	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	80	A
Operating junction temperature range	$T_J$	-55 to+150	°C
Storage temperature range	$T_{stg}$	-55 to+150	°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	I <sub>F</sub> =5.0A	T <sub>J</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.51	0.56	V
		T <sub>J</sub> =100°C		0.48	-	
		T <sub>J</sub> =125°C		0.47	-	
Reverse current	V <sub>R</sub> =60V	T <sub>J</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	20	50	μA
		T <sub>J</sub> =100°C		-	5	mA
		T <sub>J</sub> =125°C		-	15	
Typical junction capacitance	4V,1MHz		C <sub>J</sub>	430		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

## THERMAL CHARACTERISTICS

Parameter	Symbol	SMB	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJA</sub>	70.0	°C/W
	R <sub>θJL</sub>	25.0	

3. Unit mounted on PC board with 5.0mm×5.0 mm (0.013 mm thick) copper pads as heat sink, (dP<sub>tot</sub>/dt<sub>j</sub>) < (1/R<sub>θJA</sub>) is thermal runaway condition for a diode

## AVAILABLE PACK INFORMATION

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)	Quantity (K/carton)
SS56LB-SMB	T/R	Φ330	3000	330×333×39	2	370×370×360	8	48

FIG.1-FORWARD CURRENT DERATING CURVE

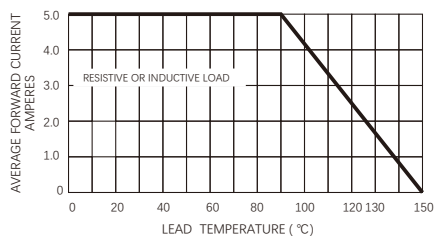


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

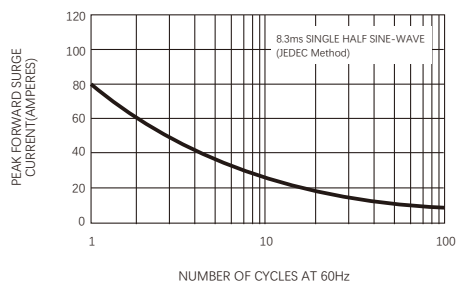


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

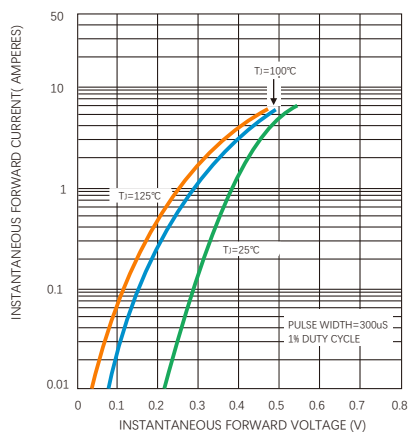


FIG.4-TYPICAL REVERSE CHARACTERISTICS

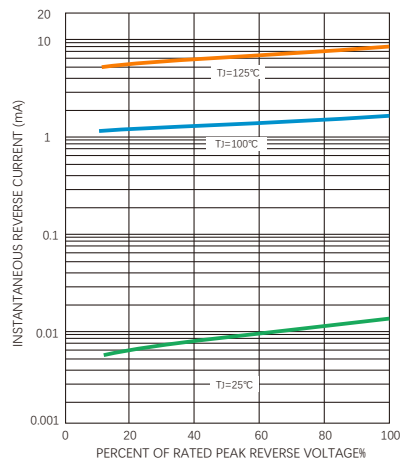
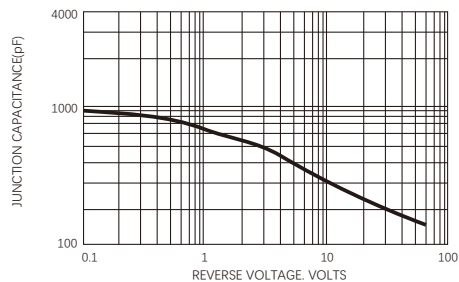


FIG.5-TYPICAL JUNCTION CAPACITANCE



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