

### FEATURES

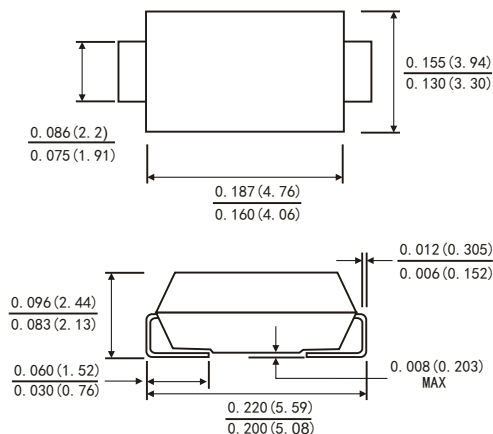
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU and WEEE 2012/19/EU



RoHS  
COMPLIANT



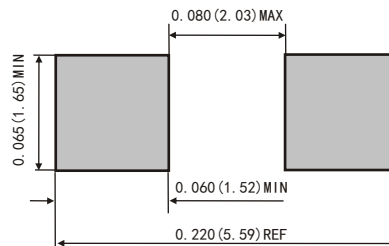
### SMB(DO-214AA)



### 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	S545U	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	45	V
Maximum average forward rectified current	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	120	A
Operating junction temperature range	$T_J$	-55 to+150	°C
Storage temperature range	$T_{stg}$	-55 to+150	°C

# RATINGS AND CHARACTERISTIC OF S545U

## ELECTRICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	IF=5.0A	TA=25°C	VF <sup>1)</sup>	0.45	0.47	V
		TA=100°C		0.39	-	
		TA=125°C		0.37	-	
Reverse current	VR=45V	TA=25°C	IR <sup>2)</sup>	80	200	μA
		TA=100°C		8	-	mA
		TA=125°C		20	-	
Typical junction capacitance	4V, 1MHz		CJ	370		pF

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

2.Pulse test: pulse width≤40ms

## THERMAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

Parameter	Symbol	S545U	Unit
Typical thermal resistance <sup>3)</sup>	RθJA	55.0	°C/W
	RθJL	17.0	

3. Unit mounted on PC board with 5.0mm×5.0mm (0.013mm thick) copper pads as heat sink

## 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)
S545U-SMB	T/R	Φ300	3000	340×340×40	2	370×370×370	8

# RATINGS AND CHARACTERISTIC OF S545U

FIG.1-FORWARD CURRENT DERATING CURVE

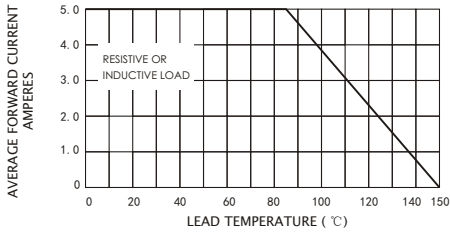


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

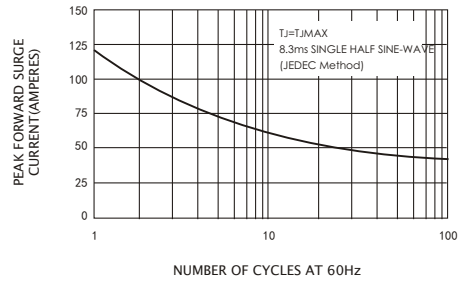


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

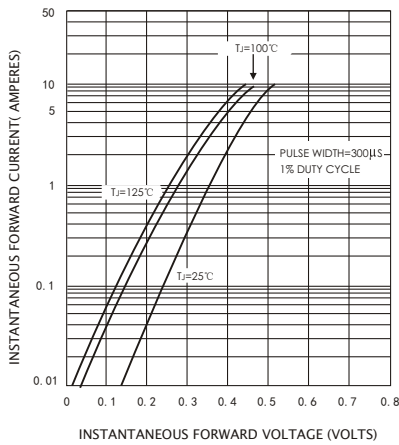


FIG.4-TYPICAL REVERSE CHARACTERISTICS

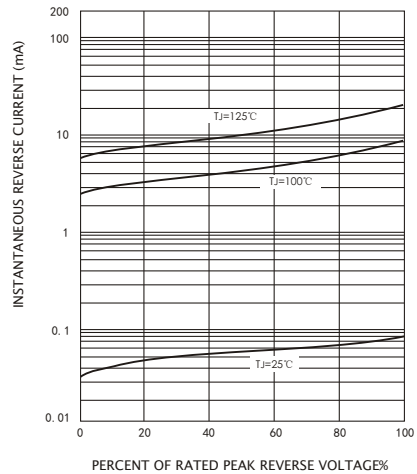


FIG.5-TYPICAL JUNCTION CAPACITANCE

