

LOW VF SCHOTTKY BARRIER RECTIFIER

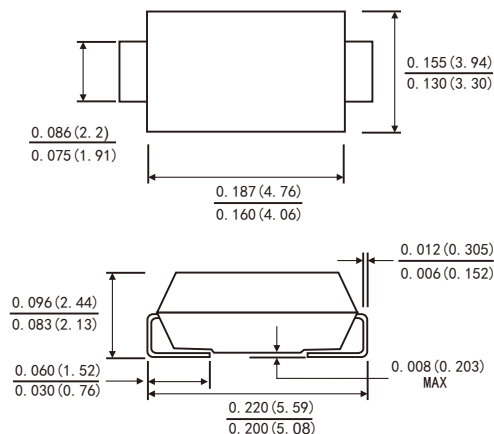
Reverse Voltage - 100 Volts
Forward Current - 5.0Amperes

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



SMB(DO-214AA)



MECHANICAL DATA

- Case: JEDEC SMB(DO-214AA) molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Polarity: color band denotes cathode end
- Mounting Position: Any

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)

PRIMARY CHARACTERISTICS	
I _{F(AV)}	5.0A
V _{RRM}	100V
I _{FSM}	150A
V _F at I _F =5.0A, 25°C	0.71V
T _{JMAX}	150°C

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	100	V
Maximum average forward rectified current 0.375"(9.5mm) lead length(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}	150	A
Operating junction temperature range	T _J	-55 to+150	°C
Storage temperature range	T _{stg}	-55 to+150	°C

RATINGS AND CHARACTERISTIC OF SS510L

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	If=5.0A	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.71	0.75	V
		$T_A=100^{\circ}\text{C}$		0.60	–	
		$T_A=125^{\circ}\text{C}$		0.56	–	
	If=2.0A	$T_A=25^{\circ}\text{C}$		0.61	–	
		$T_A=100^{\circ}\text{C}$		0.52	–	
		$T_A=125^{\circ}\text{C}$		0.48	–	
Reverse current	VR=100V	$T_A=25^{\circ}\text{C}$	I_R ²⁾	1.0	10	μA
		$T_A=100^{\circ}\text{C}$		–	0.2	mA
		$T_A=125^{\circ}\text{C}$		–	1.5	
Typical junction capacitance	4V, 1MHz		C_J	220		pF

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

2.Pulse test: pulse width $\leq 40\text{ms}$

THERMAL CHARACTERISTICS

Parameter	Symbol	SMB	Unit
Typical thermal resistance ³⁾	$R_{\theta JA}$	70.0	$^{\circ}\text{C}/\text{W}$
	$R_{\theta JL}$	25.0	

3.Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm)lead length

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)
SS510L-SMB	T/R	$\Phi 300$	3000	340×340×40	2	370×370×370	8

RATINGS AND CHARACTERISTIC OF SS510L

FIG.1-FORWARD CURRENT DERATING CURVE

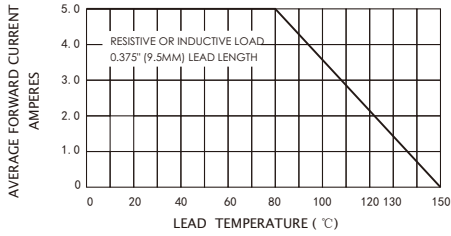


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

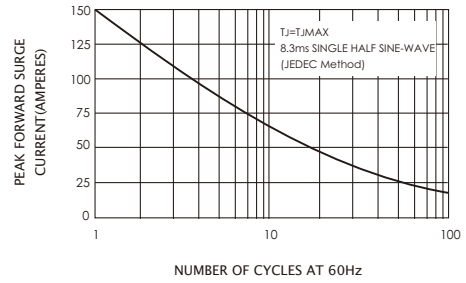


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

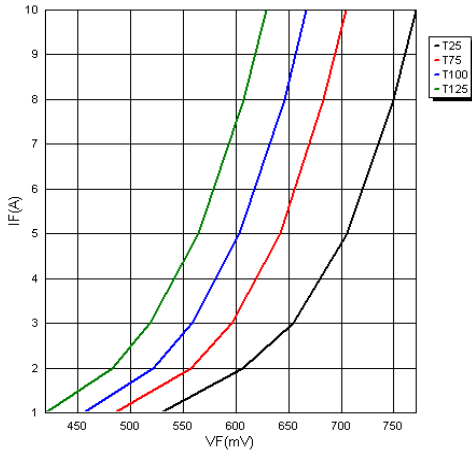


FIG.4-TYPICAL REVERSE CHARACTERISTICS

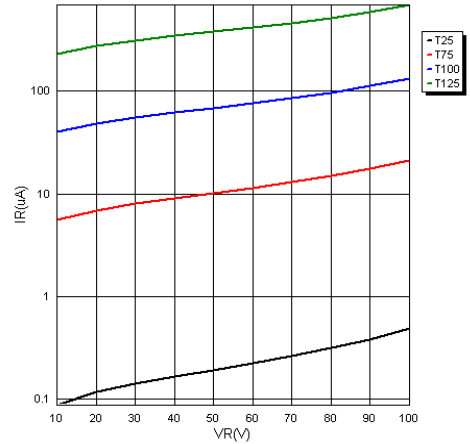
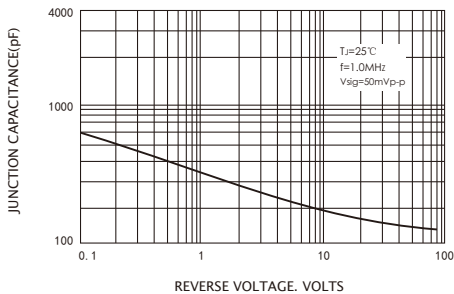
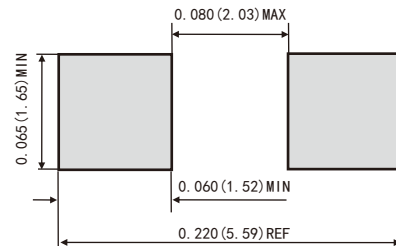


FIG.5-TYPICAL JUNCTION CAPACITANCE



Suggested PAD Layout



Dimensions in inches and (millimeters)

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