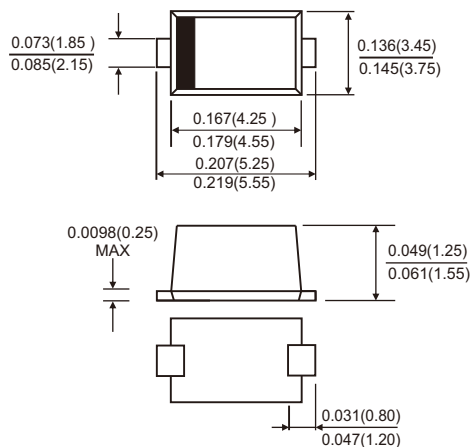


FEATURES

- Very low profile-typical height of 0.95mm
- Ideal for automated placement
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- Meets MSL level 1,per J-STD-020,LF maximum peak of 260°C
- Component in accordance to RoHS 2011/65/EU



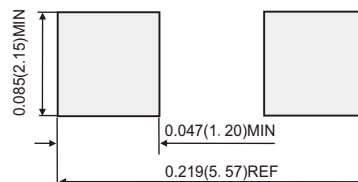
SMBFL



MECHANICAL DATA

- Case: SMBFL molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end

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	SS310LBT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum average forward rectified current (see fig.1)	$I_{F(AV)}$	3.0	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

RATINGS AND CHARACTERISTIC OF SS310LBT

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

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	$I_F=3.0\text{A}$	$T_A=25^{\circ}\text{C}$	V_F ¹⁾	0.62	0.65	V
		$T_A=100^{\circ}\text{C}$		0.59	-	
		$T_A=125^{\circ}\text{C}$		0.57	-	
Reverse current	$V_R=100\text{V}$	$T_A=25^{\circ}\text{C}$	I_R ²⁾	20	50	A
		$T_A=100^{\circ}\text{C}$		2	5	mA
		$T_A=125^{\circ}\text{C}$		10	20	
Typical junction capacitance	4V, 1MHz		C_J	240		pF

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

2.Pulse test: pulse width \leq 40ms

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

Parameter	Symbol	SS310LBT	Unit
Typical thermal resistance	$R_{\theta JA}$ ^{3) 4)}	90	$^{\circ}\text{C}/\text{W}$
	$R_{\theta JL}$ ³⁾	30	

3.Free air,mounted on recommended PCB ,2 oz.pad area

4.The heat generated must be less than thermal conductivity from junction to ambient: $dPD/dT_J < 1/R_{\theta JA}$

RATINGS AND CHARACTERISTIC OF SS310LBT

FIG.1-FORWARD CURRENT DERATING CURVE

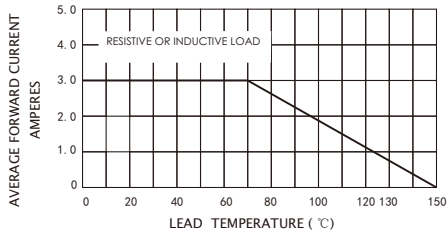


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

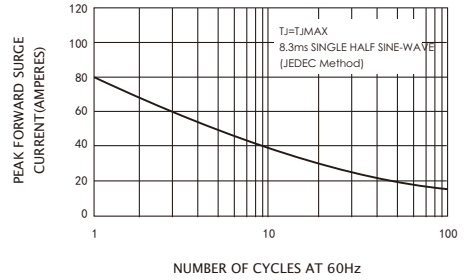


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

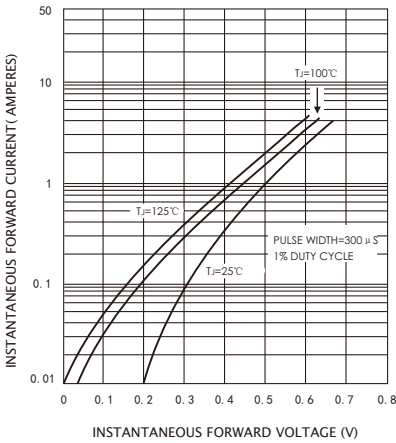


FIG.4-TYPICAL REVERSE CHARACTERISTICS

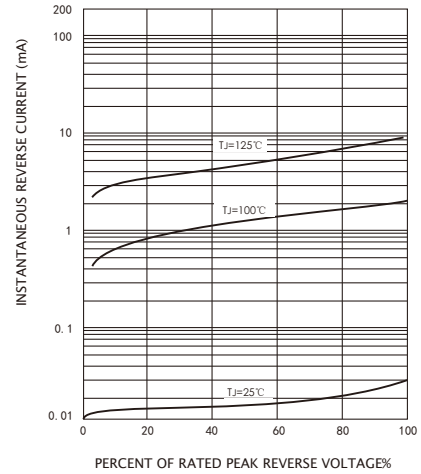


FIG.5-TYPICAL JUNCTION CAPACITANCE

