

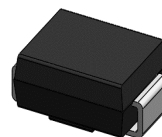
## 1A,600V Superfast Rectifier

### Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



**RoHS**  
COMPLIANT



SMB (DO-214AA)

### Applications

For use in secondary rectification and freewheeling for superfast switching speeds of converters in consumer applications.

### Maximum Ratings & Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	ES1HJB	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	V
Maximum RMS voltage	$V_{RMS}$	420	V
Maximum DC blocking voltage	$V_{DC}$	600	V
Maximum average forward rectified current	$I_{F(AV)}$	1	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	35	A
Operating junction temperature range	$T_J$	-55 to +175	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +175	$^{\circ}\text{C}$

### Thermal-Mechanical Specifications ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

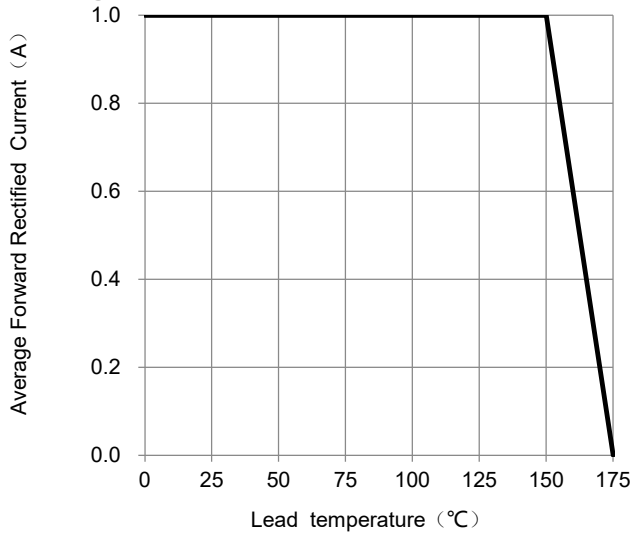
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	$R_{thJA}$	85	$^{\circ}\text{C} / \text{W}$
Thermal Resistance, Junction to Case	$R_{thJC}$	15	$^{\circ}\text{C} / \text{W}$
Thermal Resistance, Junction to Lead	$R_{thJL}$	20	$^{\circ}\text{C} / \text{W}$

Electrical Specifications( $T_A=25^{\circ}\text{C}$ unless otherwise noted)				
Parameter	Symbol	Test Conditions	ES1HJB	Unit
Maximum forward drop voltage	$V_F$	$I_F=1\text{A}$	1.25	V
Maximum reverse leakage current @ $V_R$	$I_R$	$T_J=25^{\circ}\text{C}$	5	$\mu\text{A}$
Typical junction capacitance	$C_J$	$V_R=4.0\text{V}$ , $f=1\text{MHz}$	132	pF
Maximum reverse recovery time	$t_{rr}$	$I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$	50	ns

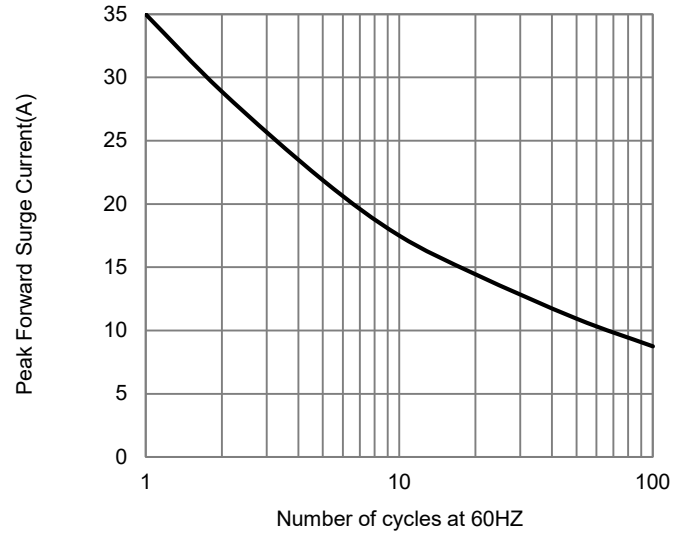
Note:

1. Mounted on copper pad area of 5 x 5mm to each terminal.

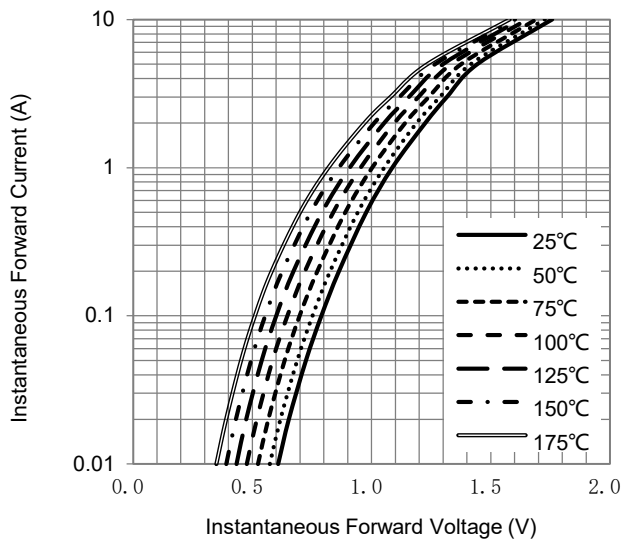
## Ratings and Characteristics Curves ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)



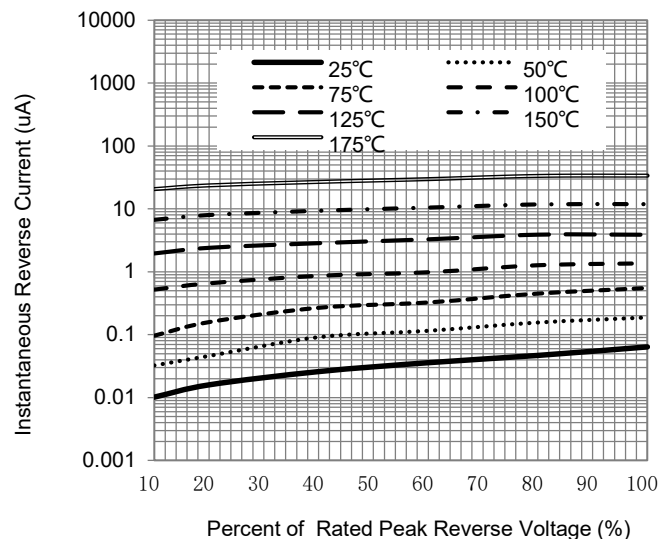
**Fig.1 –Forward Current Derating Curve**



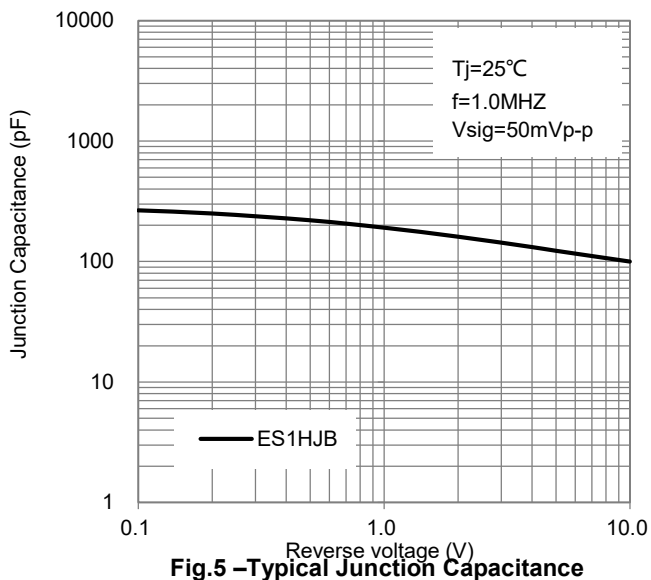
**Fig.2 – Maximum Non-Repetitive Surge Current**



**Fig.3 –Typical Forward Voltage Characteristics**



**Fig.4 –Typical Reverse Current Characteristics**

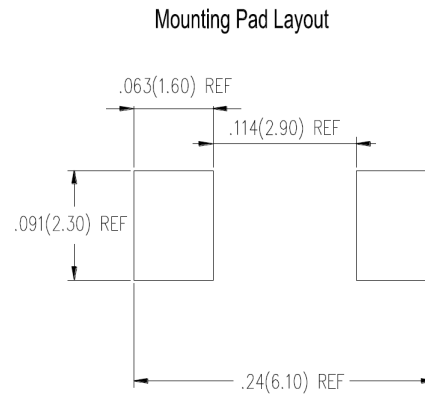
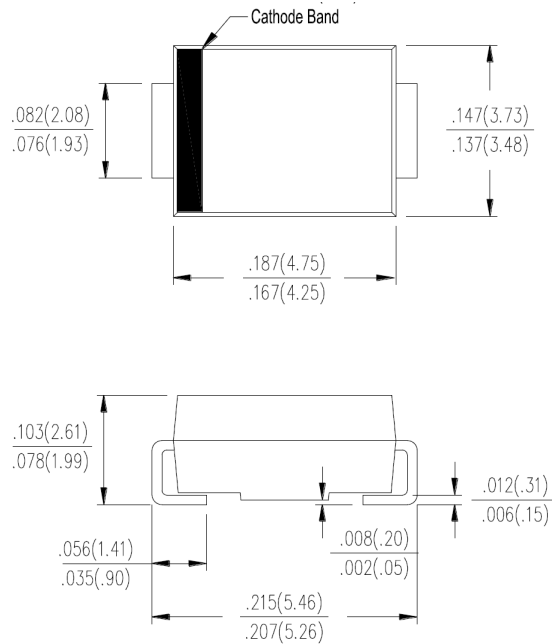


**Fig.5 –Typical Junction Capacitance**

## Package Outline Dimensions

in inches (millimeters)

### SMB (DO-214AA)



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