

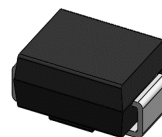
## 3A,600V Superfast Rectifier

### 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 <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	ES3HJB	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	600	V
Maximum RMS voltage	V <sub>RMS</sub>	420	V
Maximum DC blocking voltage	V <sub>DC</sub>	600	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	3	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	80	A
Operating junction temperature range	T <sub>J</sub>	-55 to +175	°C
Storage temperature range	T <sub>STG</sub>	-55 to +175	°C

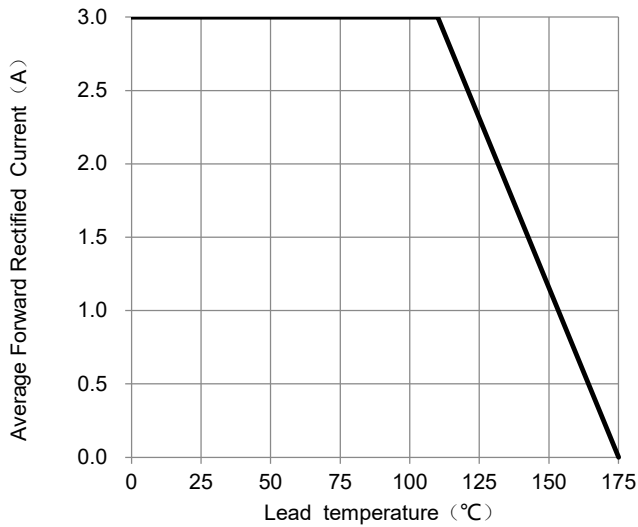
Thermal-Mechanical Specifications (T <sub>A</sub> =25°C unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R <sub>thJA</sub>	85	°C /W
Thermal Resistance, Junction to Case	R <sub>thJC</sub>	15	°C /W
Thermal Resistance, Junction to Lead	R <sub>thJL</sub>	20	°C /W

Electrical Specifications( $T_A=25^{\circ}\text{C}$ unless otherwise noted)				
Parameter	Symbol	Test Conditions	ES3HJB	Unit
Maximum forward drop voltage	$V_F$	$I_F=3\text{A}$	1.25	V
Maximum reverse leakage current @ $V_R$	$I_R$	$T_J=25^{\circ}\text{C}$	5	$\mu\text{A}$
Typical junction capacitance	$C_J$	$V_R=4.0\text{V}$ , $f=1\text{MHz}$	352	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

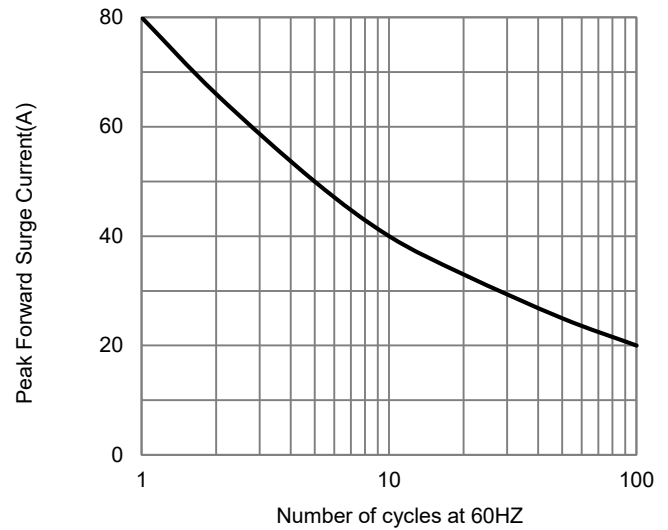
Note:

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

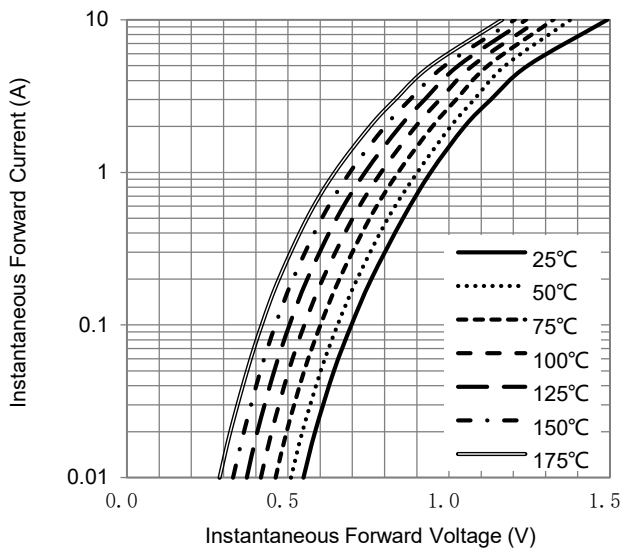
## Ratings and Characteristics Curves (T<sub>A</sub>=25°C unless otherwise noted)



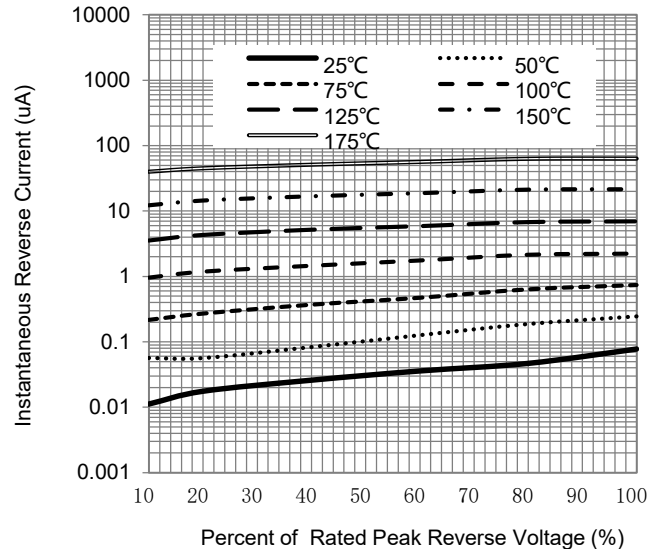
**Fig.1 –Forward Current Derating Curve**



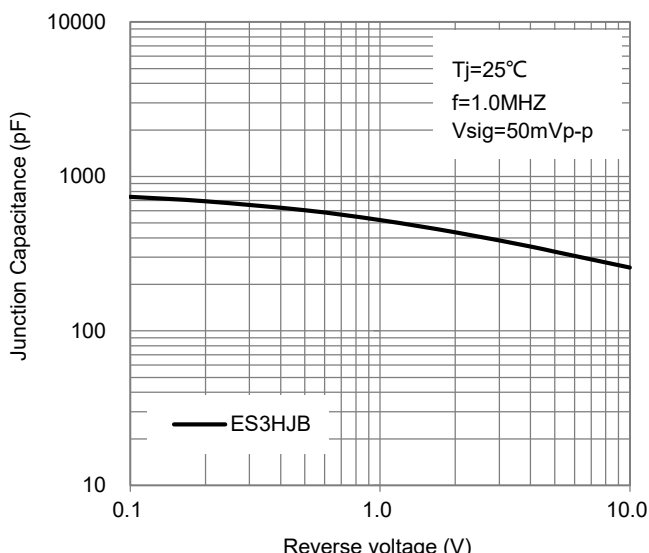
**Fig.2 – Maximum Non-Repetitive Surge Current**



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



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

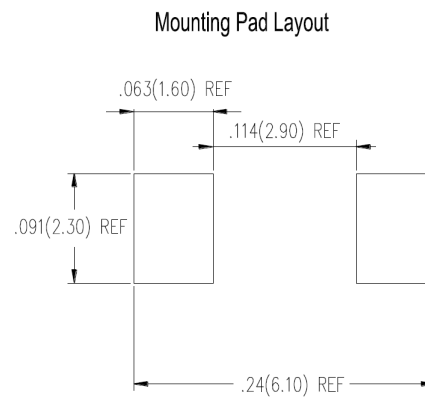
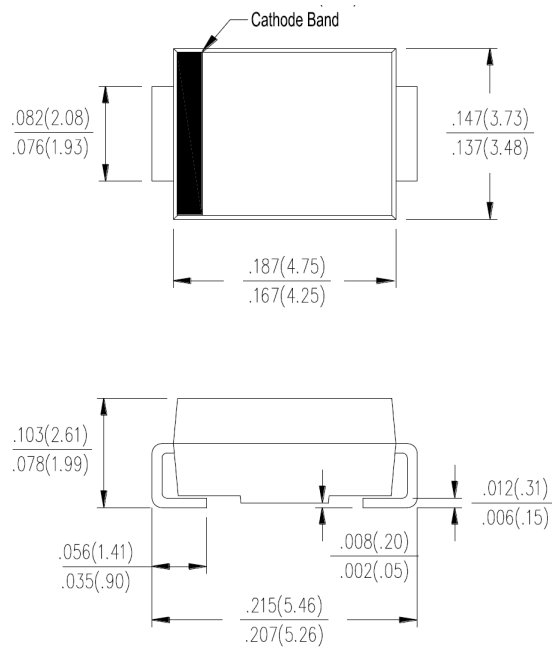


**Fig.5 –Typical Junction Capacitance**

## Package Outline Dimensions

in inches (millimeters)

### SMB (DO-214AA)



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