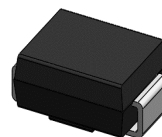# 1A,200V Superfast Rectifier

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℃/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°C unless otherwise noted)

Parameter	Symbol	ES1HDB	Unit
Maximum repetitive peak reverse voltage	V$_{RRM}$	200	V
Maximum RMS voltage	V$_{RMS}$	140	V
Maximum DC blocking voltage	V$_{DC}$	200	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$_{FSM}$	50	A
Operating junction temperature range	T$_J$	-55 to +175	°C
Storage temperature range	T$_{STG}$	-55 to +175	°C

Thermal-Mechanical Specifications (T$_A$=25°C unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R$_{thJA}$	85	°C /W
Thermal Resistance, Junction to Case	R$_{thJC}$	15	°C /W
Thermal Resistance, Junction to Lead	R$_{thJL}$	20	°C /W

Electrical Specifications(T$_A$=25°C unless otherwise noted)

| Parameter	Symbol	Test Conditions	ES1HDB	Unit
Maximum forward drop voltage	V$_F$	I$_F$=1A	0.9	V
Maximum reverse leakage current @V$_R$	I$_R$	T$_J$ =25°C	5	uA
Typical junction capacitance	C$_J$	V$_R$=4.0V, f=1MHZ	16	pF
Maximum reverse recovery time	trr	I$_F$=0.5A, I$_R$=1.0A, I$_{RR}$=0.25A	25	ns

Note：

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

Ratings and Characteristics Curves (T$_A$=25°C unless otherwise noted)
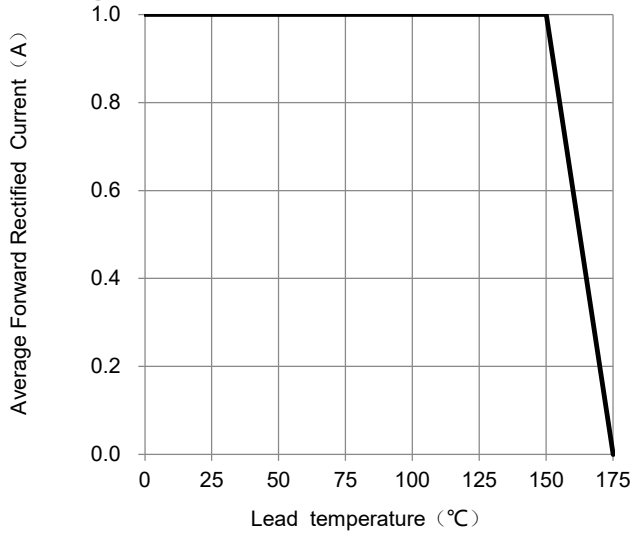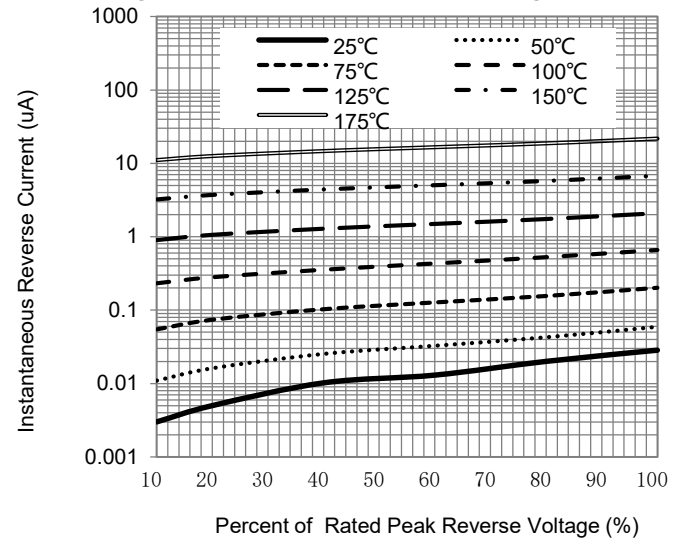

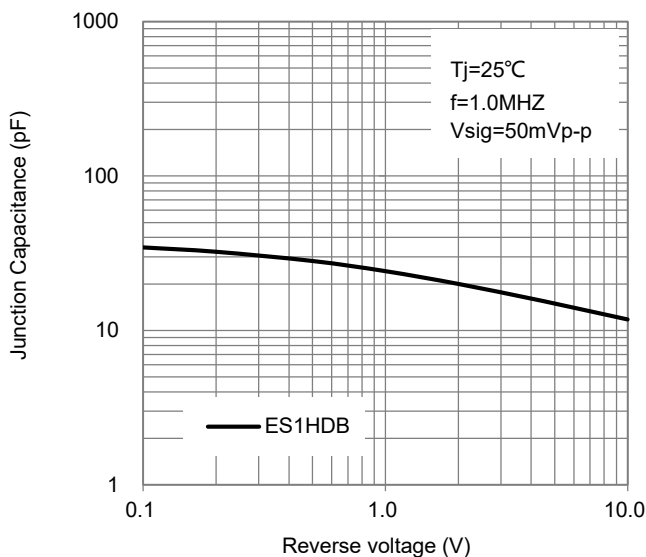**Fig.1 –Forward Current Derating Curve**
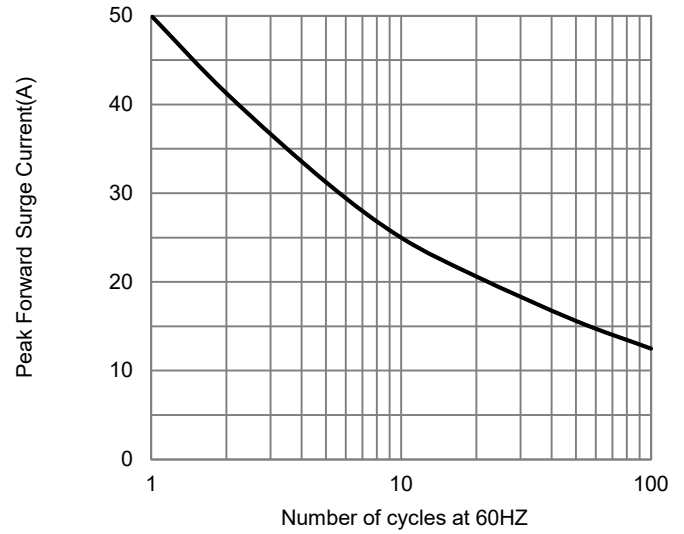
Fig.2 – Maximum Non-Repetitive Surge Current
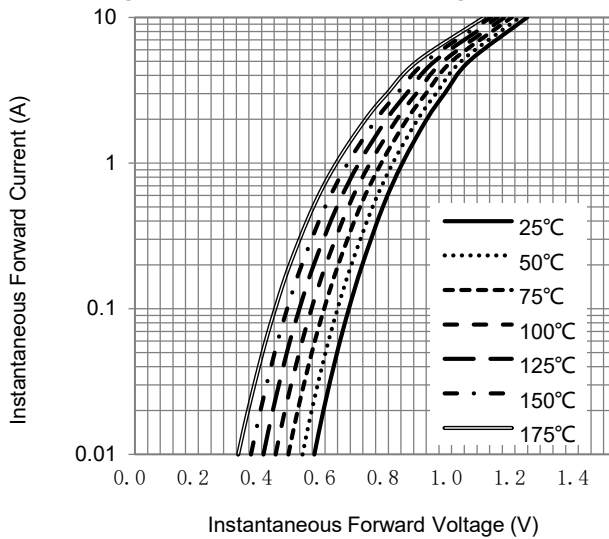
Fig.3 –Typical Forward Voltage Characteristics

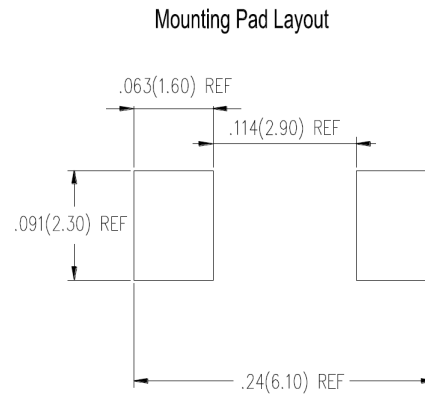**Fig.4 –Typical Reverse Current Characteristics**

Tj=25°C
f=1.0MHZ
Vsig=50mVp-p

ES1HDB
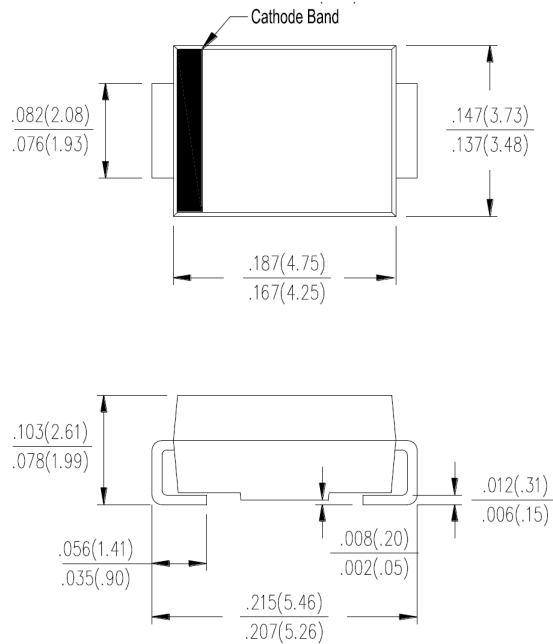
Fig.5 –Typical Junction Capacitance

Package Outline Dimensions

in inches (millimeters)

SMB (DO-214AA)

Cathode Band

.082(2.08)
.076(1.93)

.147(3.73)
.137(3.48)

.187(4.75)
.167(4.25)

.103(2.61)
.078(1.99)

.056(1.41)
.035(.90)

.215(5.46)
.207(5.26)

.008(.20)
.002(.05)

.012(.31)
.006(.15)

Mounting Pad Layout

.063(1.60) REF

.114(2.90) REF

.091(2.30) REF

.24(6.10) REF

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