

3A,400V 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



SMC (DO-214AB)

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	ES3HGC	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	400	V
Maximum RMS voltage	V_{RMS}	280	V
Maximum DC blocking voltage	V_{DC}	400	V
Maximum average forward rectified current	$I_{F(AV)}$	3	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	100	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}	65	$^{\circ}\text{C} / \text{W}$
Thermal Resistance, Junction to Case	R_{thJC}	10	$^{\circ}\text{C} / \text{W}$
Thermal Resistance, Junction to Lead	R_{thJL}	15	$^{\circ}\text{C} / \text{W}$

Electrical Specifications ($T_A=25^{\circ}\text{C}$ unless otherwise noted)				
Parameter	Symbol	Test Conditions	ES3HGC	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	μA
Typical junction capacitance	C_J	$V_R=4.0\text{V}$, $f=1\text{MHZ}$	337	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)

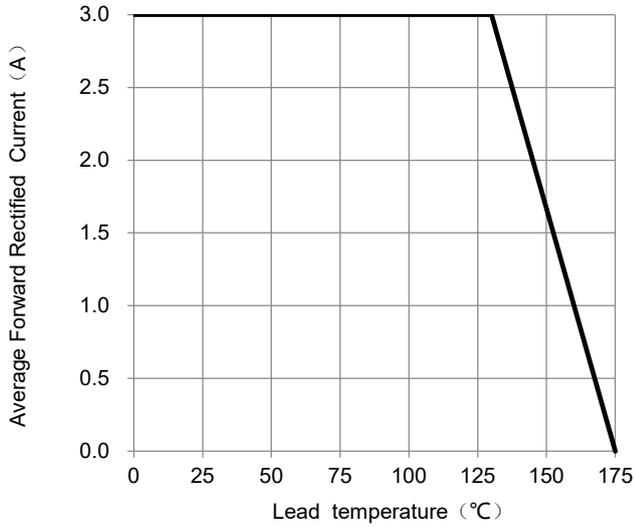


Fig.1 –Forward Current Derating Curve

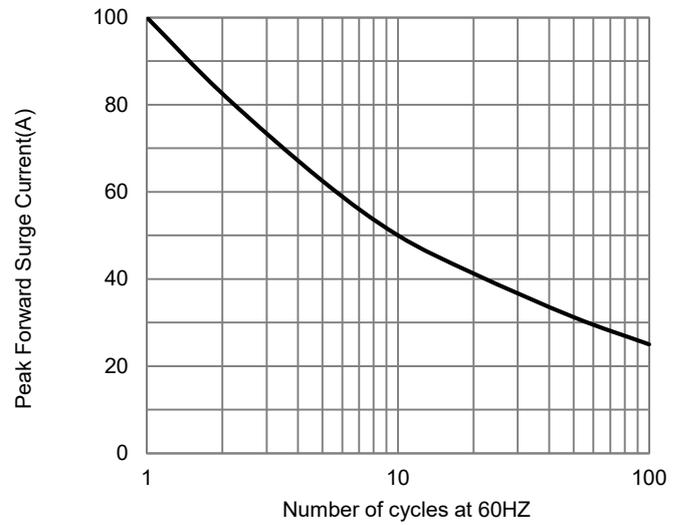


Fig.2 – Maximum Non-Repetitive Surge Current

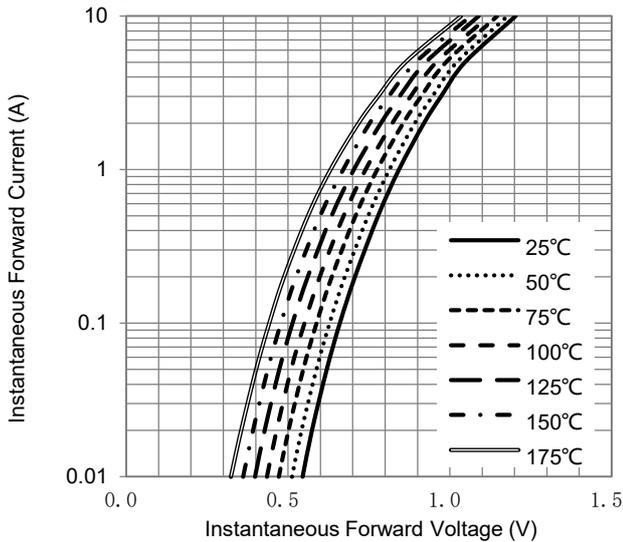


Fig.3 –Typical Forward Voltage Characteristics

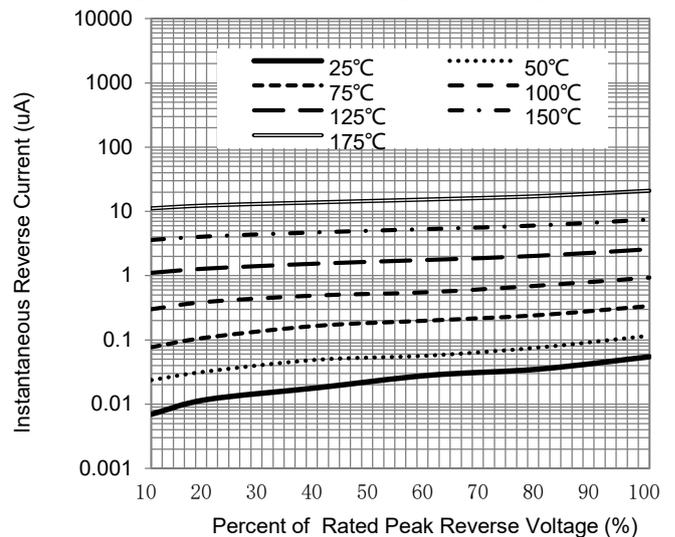


Fig.4 –Typical Reverse Current Characteristics

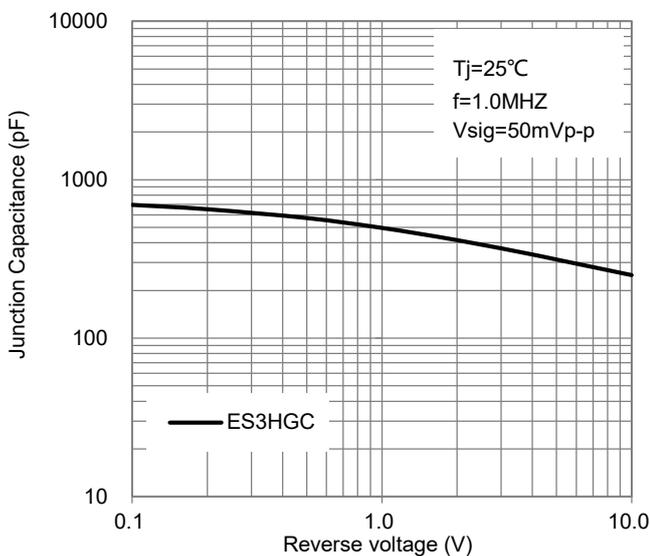
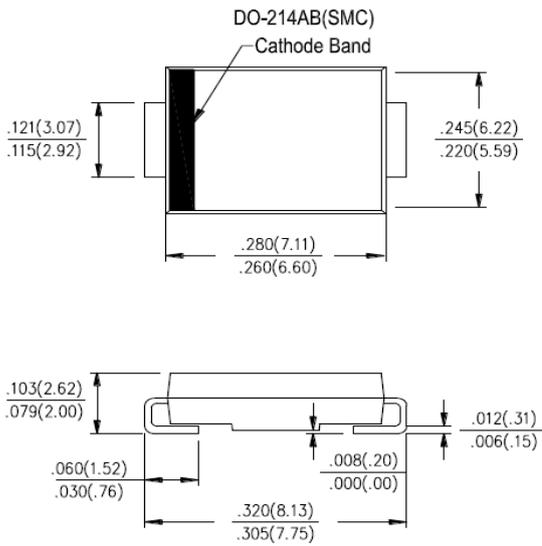


Fig.5 –Typical Junction Capacitance

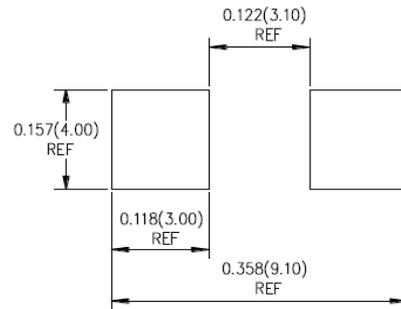
Package Outline Dimensions

in inches (millimeters)

SMC (DO-214AB)



Mounting Pad Layout



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