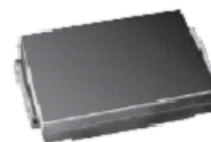


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junctions
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- High temperature soldering:
260°C/10 seconds at terminals
- Component in accordance to
RoHS 2002/95/1 and WEEE 2002/96/EC



SMC (DO - 214AB)

Mechanical Date

- **Case:** JEDEC DO-214AB molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102D
- **Polarity:** Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	100 A
t_{rr}	50 nS , 75 nS
V_F	1.0 V , 1.3 V , 1.7 V
$T_j \text{ max.}$	150 °C

Maximum Ratings & Thermal Characteristics

 ($T_A = 25\text{ °C}$ unless otherwise noted)

Items	Symbol	ES3A	ES3B	ES3D	ES3G	ES3J	ES3K	ES3M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100							A
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	20							°C/ W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

Note 1: Mounted on P.C.B. with 0.32 x 0.32" (8.0 x 8.0mm) copper pad areas.

Electrical Characteristics ($T_A = 25\text{ °C}$ unless otherwise noted)

Items	Test conditions	Symbol	ES3A~ES3D	ES3G	ES3J~ES3M	UNIT
Instantaneous forward voltage	$I_F = 3.0\text{ A}^{(2)}$	V_F	1.0	1.3	1.7	V
Reverse current	$V_R = V_{DC}$	I_R	$T_J = 25\text{ °C}$			μA
			$T_J = 125\text{ °C}$			
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, t_{rr} = 0.25\text{ A}$	t_{rr}	50		75	nS
Typical junction capacitance	4.0 V , 1MHz	C_J	30			pF

Note 2: Pulse test:300μs pulse width,1% duty cycle.

Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

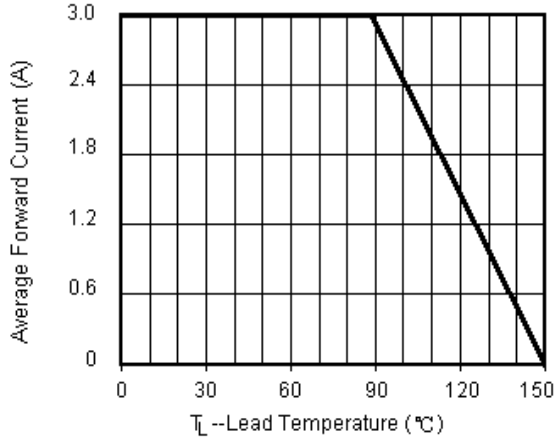


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

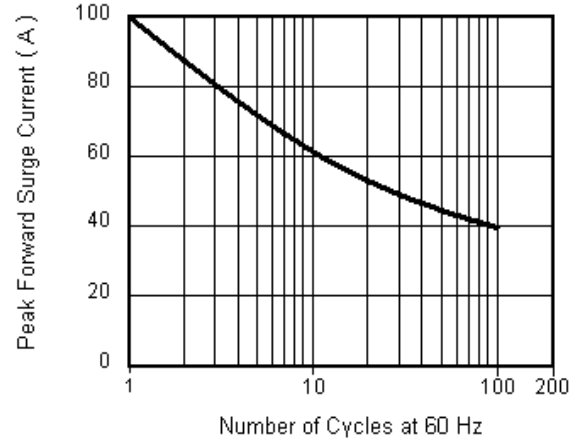


Fig.3 Typical Instantaneous Forward Characteristics

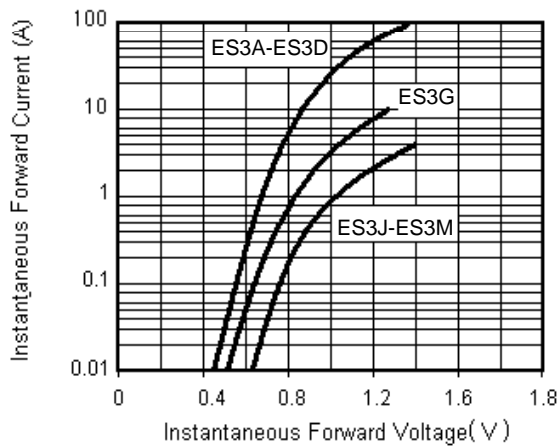
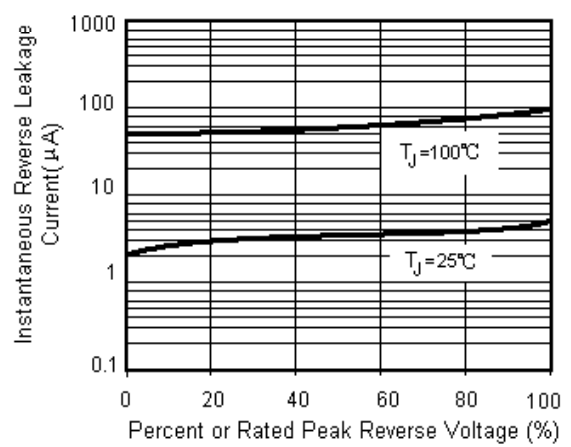
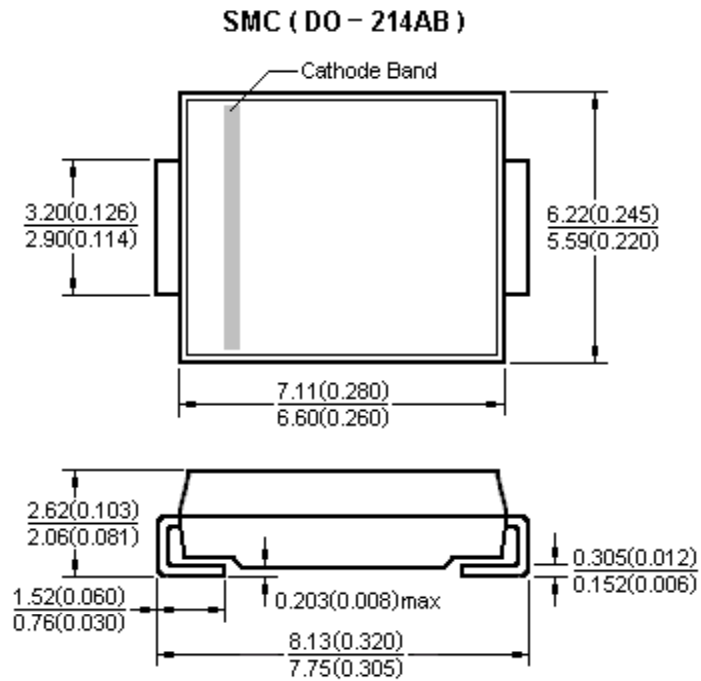


Fig.4 Typical Reverse Leakage Characteristics



Package Outline



Dimensions in millimeters and (inches)