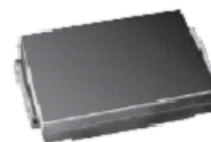


### Features

- 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 <sup>(1)</sup>	$R_{\theta JL}$	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.

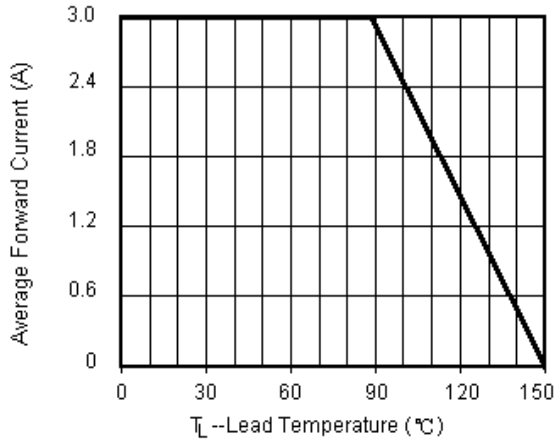
### Electrical Characteristics ( $T_A = 25\text{ °C}$ unless otherwise noted)

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

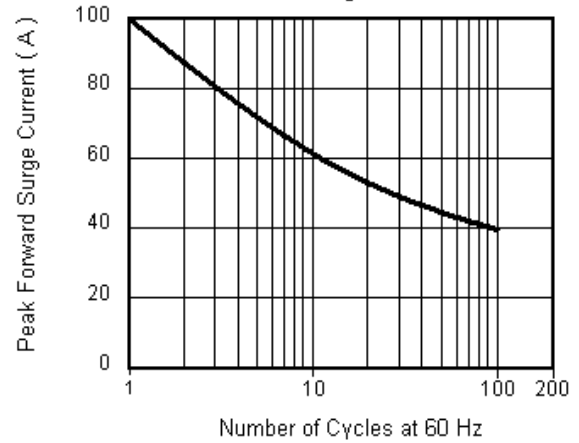
Note 2: Pulse test: 300μs pulse width, 1% duty cycle.

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

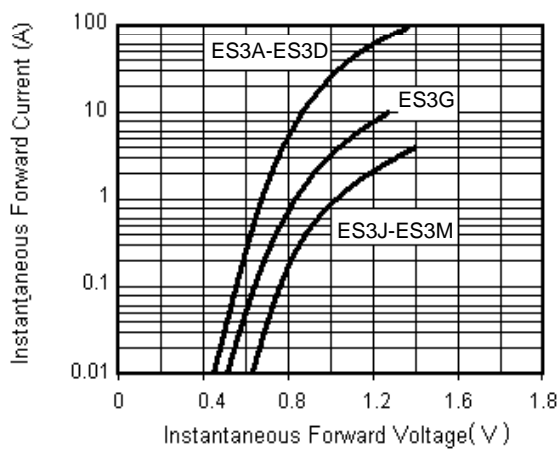
**Fig.1 Forward Current Derating Curve**



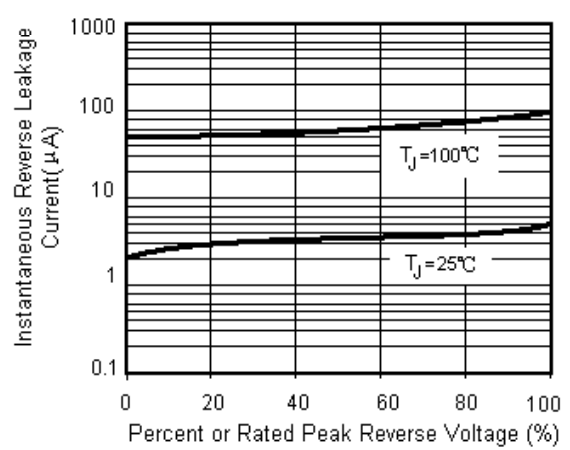
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**



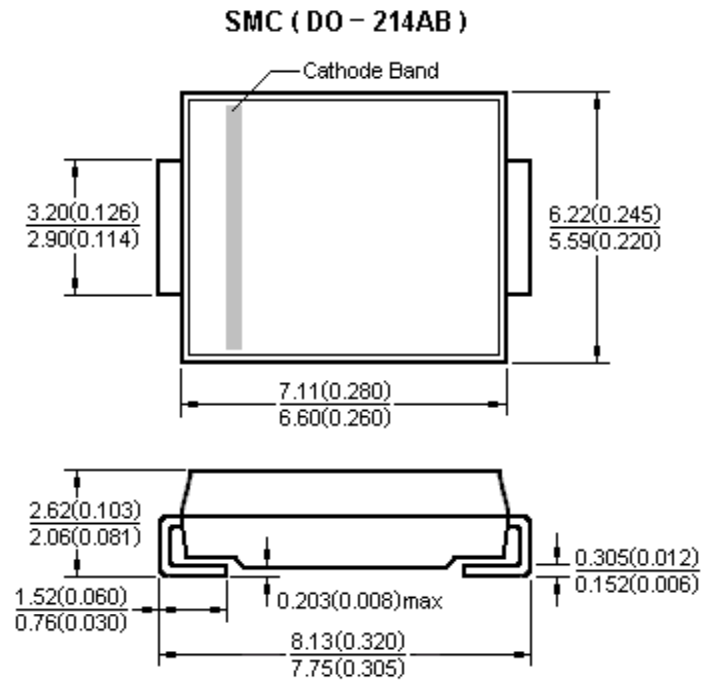
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Reverse Leakage Characteristics**



Package Outline



Dimensions in millimeters and (inches)