US3A~US3M SMB

High Efficiency Recovery rectifiers

Major Ratings and Characteristics

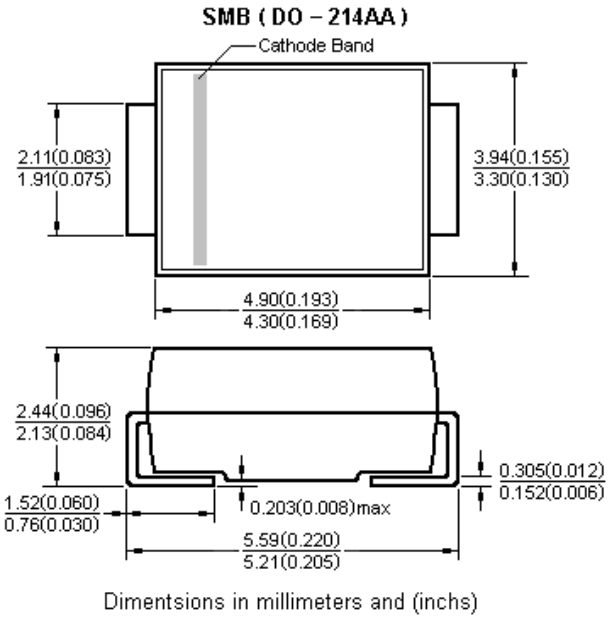
$I_{F(AV)}$	3.0A
V_{RRM}	50 V to 1000 V
I_{FSM}	100 A
t_{rr}	50nS,75ns
V_F	1.0V,1.3V,1.7V
T_j max.	150 °C



SMB (DO – 214AA)

Features

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



Dimentsions in millimeters and (inchs)

Mechanical Date

- **Case:** JEDEC DO-214ABolded plastic body over passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end

Maximum Ratings & Thermal Characteristics & Electrical Characteristics

(T_A = 25 °C unless otherwise noted)

	Symbol	US3A	US3B	US3D	US3G	US3J	US3K	US3M	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							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100							A
Maximum instantaneous forward voltage at 3.0A	V_F	1.0			1.3	1.7			V
Maximum DC reverse current T_A = 25 ℃ at Rated DC blocking voltage T_A = 100℃	I_R	10.0 50							μA
Maximum reverse recovery time at I_F = 0.5 A , I_R = 1.0 A , I_{rr} = 0.25 A	t_{rr}	50				75			nS
Typical junction capacitance at 4.0 V ,1MHz	C_J	15							pF
Thermal resistance from junction to lead	$R_{\theta JL}$	85							℃/ W
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +150							℃

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

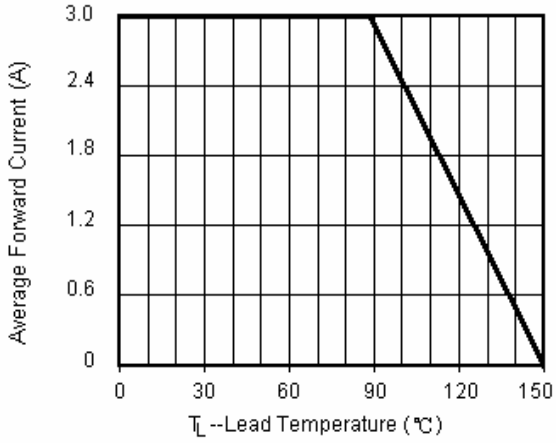


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

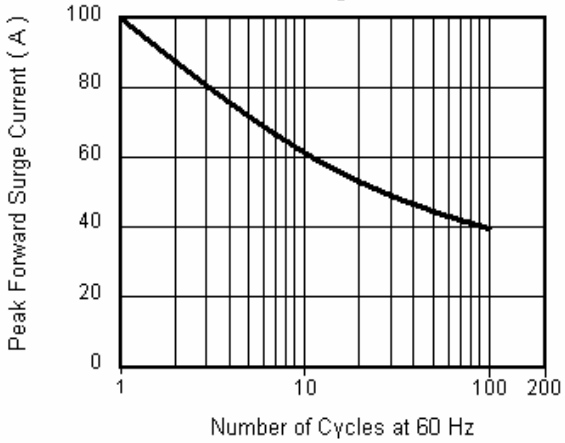


Fig.3 Typical Instantaneous Forward Characteristics

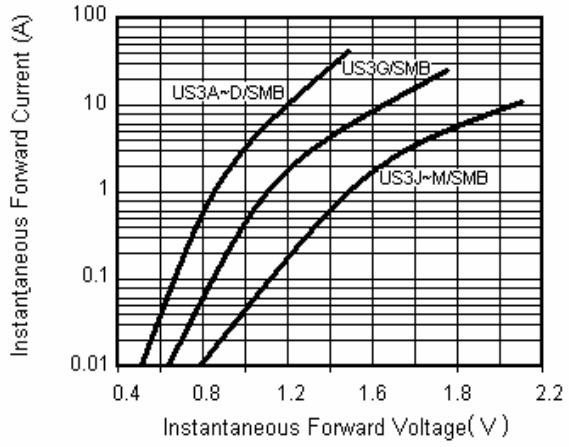


Fig.4 Typical Reverse Leakage Characteristics

