

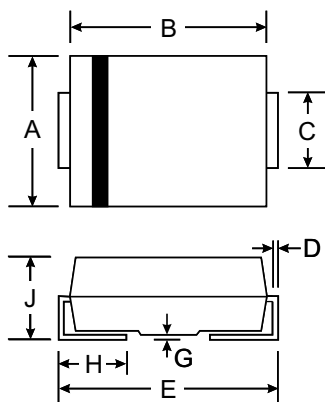
VOLTAGE RANGE: 50V-1000 V
CURRENT: 3.0 A

Features

- Glass Passivated Die Construction
- Fast Recovery Time for High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Ideally Suited for Automatic Assembly
- Plastic Material: UL Flammability
- Classification Rating 94V-0

Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



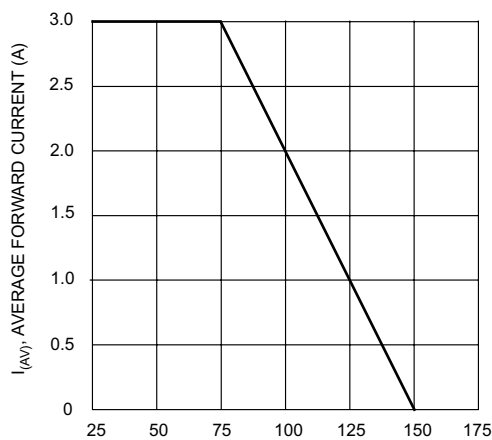
SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

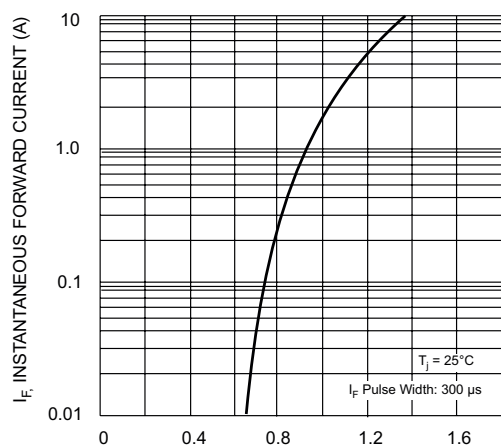
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	SMF301B	SMF302B	SMF303B	SMF304B	SMF305B	SMF306B	SMF307B	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_T = 75^{\circ}\text{C}$	I_O	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100							A
Forward Voltage @ $I_F = 3.0\text{A}$	V_{FM}	1.3							V
Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^{\circ}\text{C}$	I_{RM}	5.0 250							μA
Maximum Recovery Time (Note 3)	t_{rr}	150				250	500		ns
Typical Junction Capacitance (Note 2)	C_j	50							pF
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{\theta JT}$	25							K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150							$^{\circ}\text{C}$

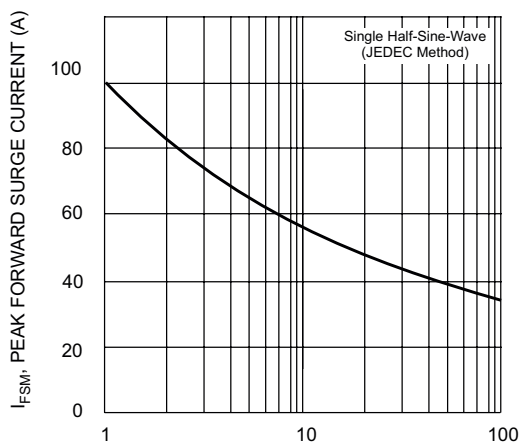
- Notes:
1. Thermal resistance: junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pad as heat sink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Reverse recovery test conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$. See figure 5.



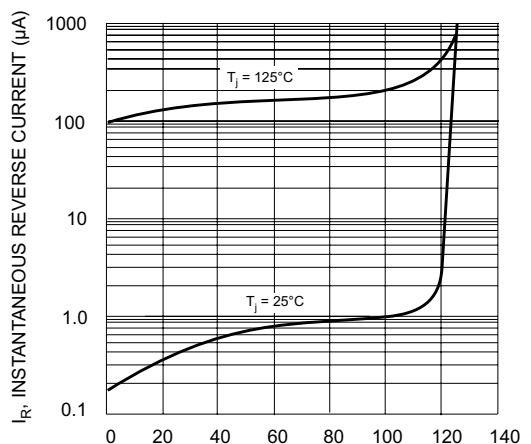
T_T , TERMINAL TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



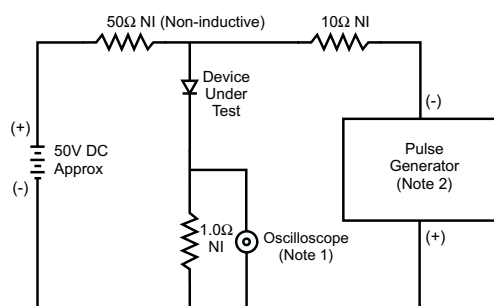
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



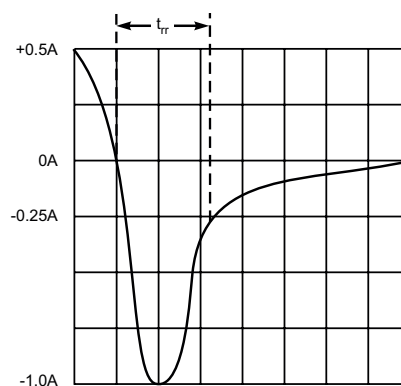
NUMBER OF CYCLES AT 60 Hz
Fig. 3 Forward Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M Ω , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 Ω .



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit