(ES2A~ES2J)SMB

Super Fast recovery rectifiers

Major Ratings and Characteristics

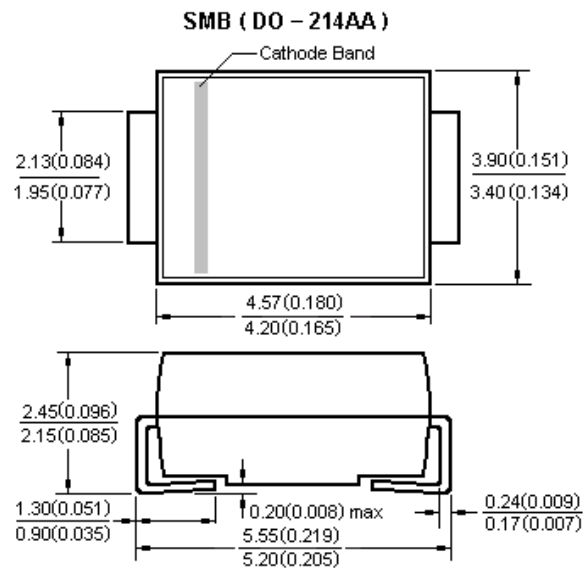| $I_{F(AV)}$	2.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	60 A
t_{rr}	35 nS
V_F	0.95 V, 1.3 V, 1.7 V
T_j max.	150 °C

SMB (DO－214AA)

Features

● Glass passivated chip junction

● Ideal for automated placement

● Ultrafast reverse recovery time for high efficiency

● Low profile package

● High forward surage capability

● High temperatrue soldering：
260℃/10 seconds at terminals

● Component in accordance to RoHS 2002/95/1
and WEEE 2002/96/EC

Mechanical Date

● Case: JEDEC DO-214AAmolded plastic
body over passivated chip

● Terminals: Solder plated, solderable per
J-STD-002B and JESD22-B102D

● Polarity: Laser band denotes cathode end

SMB (DO－214AA)
Cathode Band

2.13(0.084) / 1.95(0.077)

3.90(0.151) / 3.40(0.134)

4.57(0.180) / 4.20(0.165)

2.45(0.096) / 2.15(0.085)

1.30(0.051) / 0.90(0.035)

0.20(0.008) max

5.55(0.219) / 5.20(0.205)

0.24(0.009) / 0.17(0.007)

Dimentsions in millimeters and (inchs)

Maximum Ratings & Thermal Characteristics & Electrical Characteristics

(TA = 25 °C unless otherwise noted)

	Symbol	(ES2A)	(ES2B)	(ES2D)	(ES2G)	(ES2J)	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V
Maximum average forward rectified current	$I_{F(AV)}$	2					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	60					A
Maximum instantaneous forwad voltage at 2.0A	V_F	0.95			1.30	1.70	V
Maximum DC reverse current TA = 25 ℃ at Rated DC blocking voltage TA = 100℃	I_R	5.0					μA
		50					μA
Maximum reverse recovery time at I_F = 0.5 A , I_R = 1.0 A , I_{rr} = 0.25 A	t_{rr}	35					nS
Typical junction capacitance at 4.0 V ,1MHz	C_J	18					p F
Typical thermal resistance	$R_{\theta JA}$	75					℃/ W
Operating junction and storage temperature range	T_J, T_{STG}	−55 to +150					℃

Super Fast recovery rectifiers

Characteristic Curves (T$_A$=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

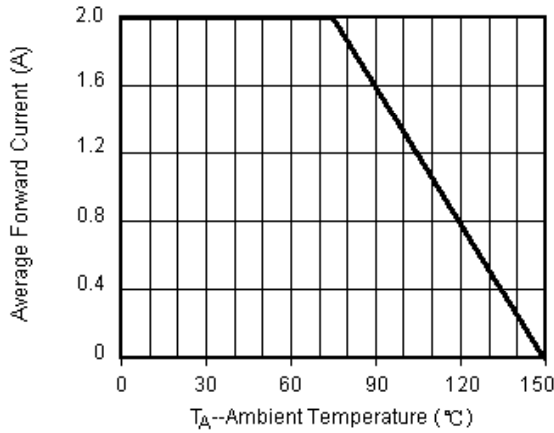Average Forward Current (A) vs. T$_A$--Ambient Temperature (℃)

Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

Peak Forward Surge Current (A) vs. Number of Cycles at 60 Hz
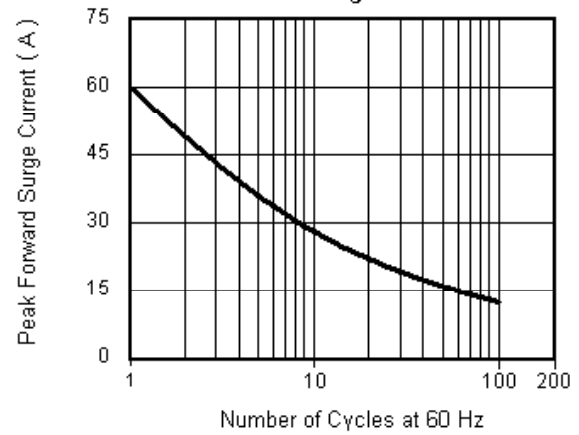
Fig.3 Typical Instantaneous Forward Characteristics

Instantaneous Forward Current (A) vs. Instantaneous Forward Voltage (V)

BSF2A~BSF2D
BSF2G
BSF2J
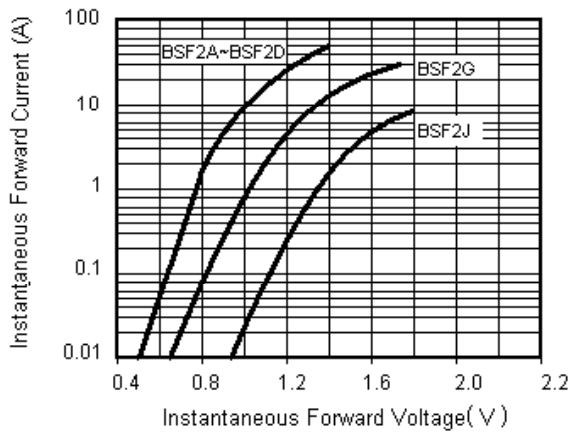
Fig.4 Typical Reverse Leakage Characteristics

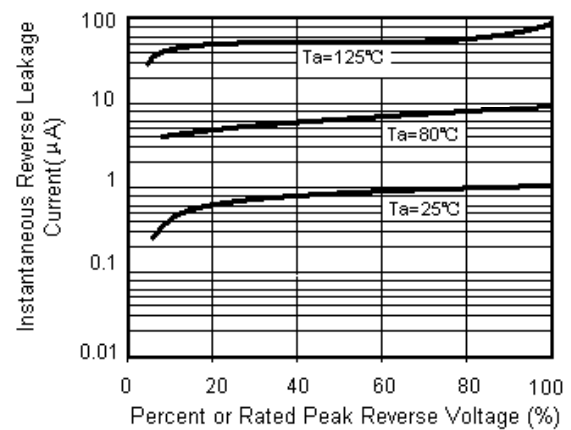Instantaneous Reverse Leakage Current (μA) vs. Percent or Rated Peak Reverse Voltage (%)

Ta=125℃
Ta=80℃
Ta=25℃

Fig.5 Typical Junction Capacitance

Junction Capacitance (pF) vs. Reverse Voltage (V)

BSF2A~BSF2D
BSF2G~BSF2J