S2A~S2M

Surface Mount Standard Rectifiers

Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:
  260℃/10 seconds at terminals
- Component in accordance to
  RoHS 2002/95/1 and WEEE 2002/96/EC

SMB (DO – 214AA)

Mechanical Date

- **Case:** JEDEC DO-214AA molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	**2.0 A**
V_{RRM}	**50 V to 1000 V**
I_{FSM}	**50 A**
I_R	**5 μA**
V_F	**1.1 V**
T_j **max.**	**150 °C**

Maximum Ratings & Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Items	Symbol	S2A	S2B	S2D	S2G	S2J	S2K	S2M	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	$I_{F(AV)}$	2							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50							A
Thermal resistance from junction to lead(1)	$R_{\theta JL}$	25							℃/ W
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +150							℃

Note 1: Mounted on P.C.B. with 0.28 x 0.28" (7.0 x 7.0mm) copper pad areas.

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Items	Test conditions		Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	I_F=2A(2)		V_F	-	0.98	1.10	V
Reverse current	V_R=V_{DC}	T_j=25℃ T_j=125℃	I_R	-	-	5 50	μA
Typical junction capacitance	4.0 V ,1MHz		C_J	-	30.0	-	pF

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

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

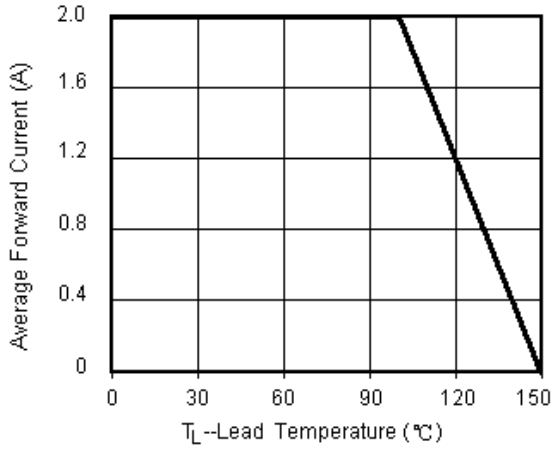


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

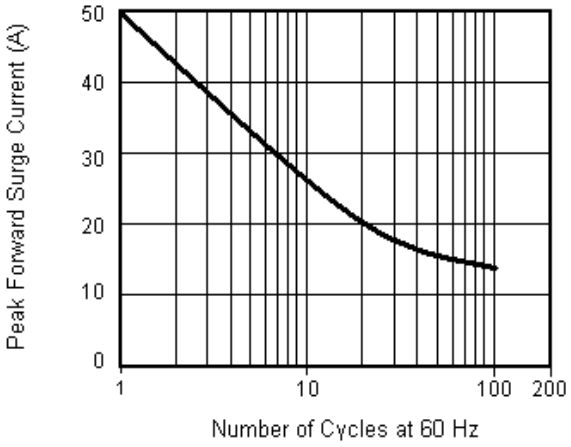


Fig.3 Typical Instantaneous Forward Characteristics

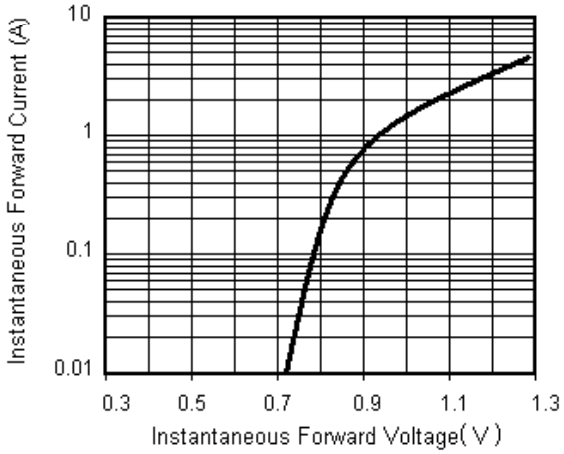
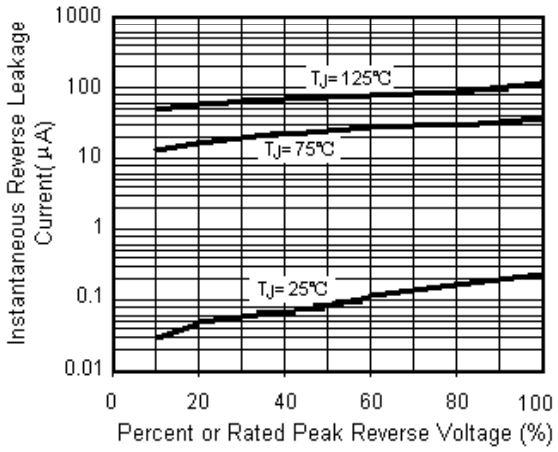
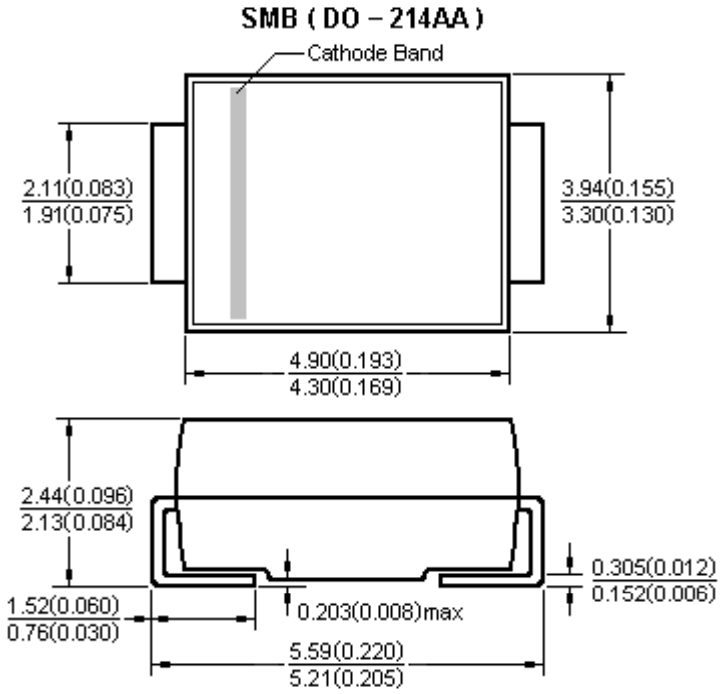


Fig.4 Typical Reverse Leakage Characteristics



Package Outline



Dimensions in millimeters and (inches)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage.or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.
  $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .
  T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.

- TRR is registered trademark of Zhejiang TRR Microelectronics Inc. Zhejiang TRR Microelectronics Inc reserves the right to make changes to any product in this specification without notice.
- Zhejiang TRR Microelectronics Inc does not assure any liability arising out of the applications or use of any product described in this specification.
- Zhejiang TRR Microelectronics Inc advises customers to obtain the latest version of the device information before placing orders to verify that the required information is current.