S3A/B - S3M/B

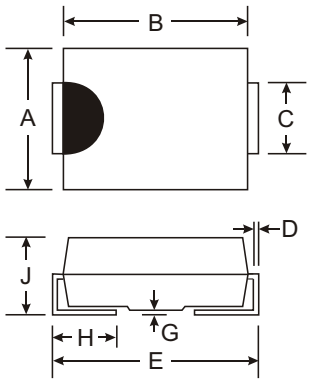
3.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER

Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 100A Peak
- Ideally Suited for Automatic Assembly
- **Available in Lead Free Finish/RoHS Compliant Version (Note 3)**

Mechanical Data

- Case: SMB/SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 5, on Page 2
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number & Date Code, See Page 2
- Ordering Information: See Page 2
- Weight: SMB 0.093 grams (approximate)
  SMC 0.21 grams (approximate)



Dim	SMB		SMC	
	Min	Max	Min	Max
A	3.30	3.94	5.59	6.22
B	4.06	4.57	6.60	7.11
C	1.96	2.21	2.75	3.18
D	0.15	0.31	0.15	0.31
E	5.00	5.59	7.75	8.13
G	0.10	0.20	0.10	0.20
H	0.76	1.52	0.76	1.52
J	2.00	2.62	2.00	2.62
All Dimensions in mm				

AB, BB, DB, GB, JB, KB, MB Suffix Designates SMB Package
A, B, D, G, J, K, M Designates SMC Package

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

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

Characteristic	Symbol	S3 A/AB	S3 B/BB	S3 D/DB	S3 G/GB	S3 J/JB	S3 K/KB	S3 M/MB	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	$V_{R(RMS)}$	30	70	140	280	420	560	700	V
Average Rectified Output Current @ T_T = 75°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 = 3.0A	V_{FM}	1.15							V
Peak Reverse Current @ T_A = 25°C at Rated DC Blocking Voltage @ T_A = 125 °C	I_{RM}	10 250							μA
Typical Total Capacitance (Note 1)	C_T	40							pF
Typical Thermal Resistance Junction to Terminal (Note 2)	$R_{\theta JT}$	10							°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150							°C

Notes:
1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
2. Thermal resistance: Junction to Terminal, unit mounted on PC board with 5.0 mm^2 (0.013 mm thick) copper pad as heat sink.
3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

Ordering Information (Note 4)

Device*	Packaging	Shipping
S3xB-13 S3x-13	SMB SMC	3000/Tape & Reel

*x = Device type, e.g. S3AB-13 (SMB package); S3A-13 (SMC Package).

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
5. For Lead Free Finish; RoHS Compliant version part numbers, please add "-F" suffix to the part numbers above. Example: S3AB-13-F.

Marking Information

XXXX = Product type marking code, ex. S5KC
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52

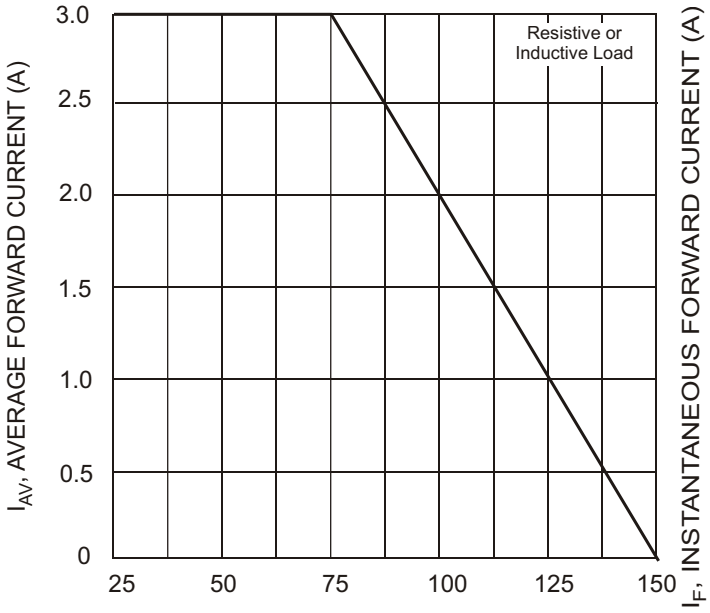


Fig. 1 Forward Current Derating Curve

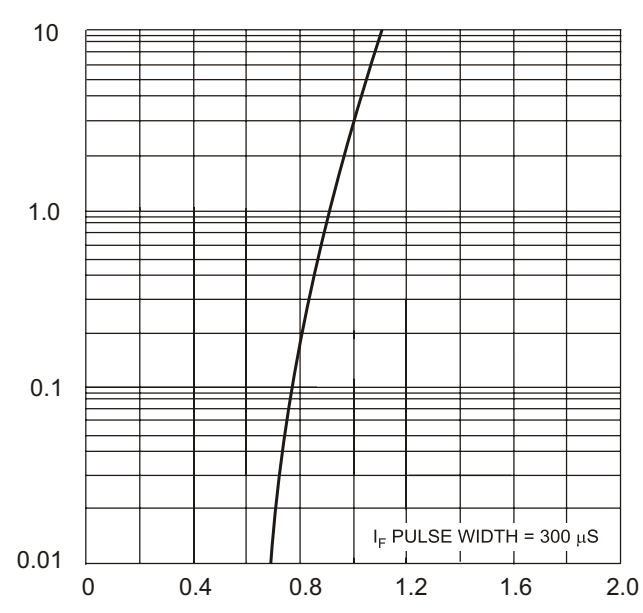


Fig. 2 Typical Forward Characteristics

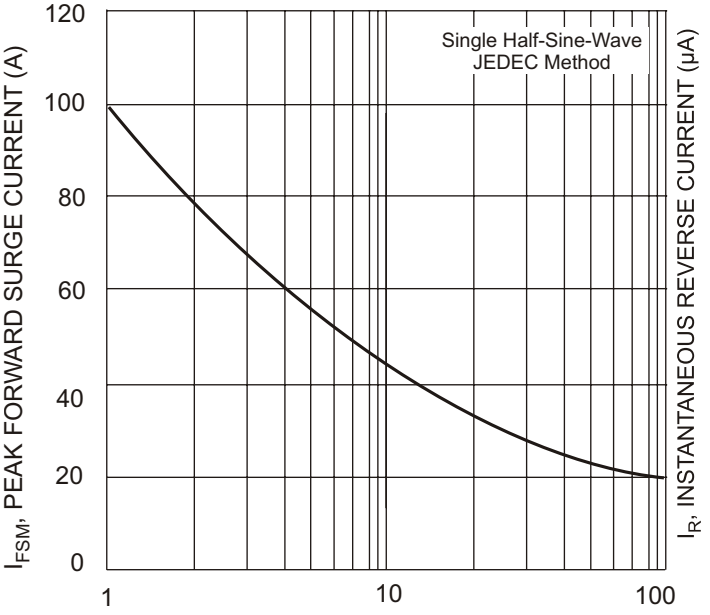


Fig. 3 Forward Surge Current Derating Curve

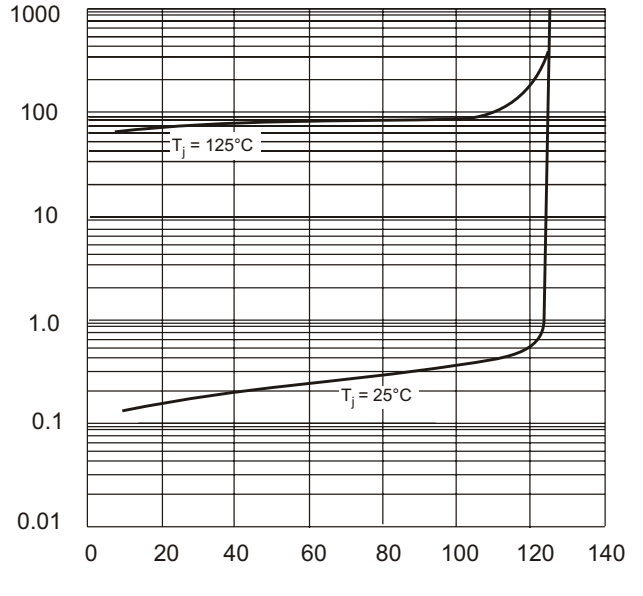


Fig. 4 Typical Reverse Characteristics