



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 Automated Assembly
- Lead Free Finish/RoHS Compliant (Note 1)
- Green Molding Compound (No Halogen and Antimony) (Note 2)

Mechanical Data

- Case: SMB/SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (2):
- Polarity: Cathode Band or Cathode Notch
- Weight: SMB 0.093 grams (approximate) SMC 0.21 grams (approximate)





Top View

Bottom View

Ordering Information* (Note 3)

Part Number	Case	Packaging
S3xB-13-F	SMB	3000/Tape & Reel
S3x-13-F	SMC	3000/Tape & Reel

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

Notes:

- 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
- 2. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.
- 3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



S3x = Product Type Marking Code, ex. S3K (SMC)
S3xB = Product Type Marking Code, ex. S3KB (SMB)

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| S4xB = Product Typ

WW = Week code (01 to 53)



Maximum Ratings @TA = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance 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	>
RMS Reverse Voltage	V _{R(RMS)}	30	70	140	280	420	560	700	V
Average Rectified Output Current @ T _T = 75°C	Io				3.0				Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}				100				Α

Thermal Characteristics

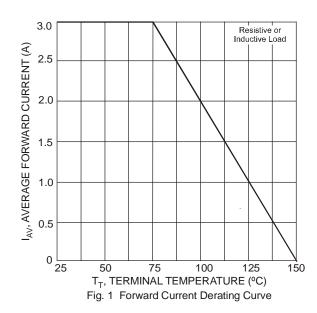
Characteristic		Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal	(Note 4)	$R_{\theta JT}$	10	°C/W
Operating and Storage Temperature Range		$T_{J_i} T_{STG}$	-65 to +150	°C

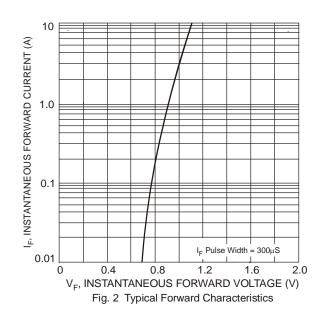
Electrical Characteristics @TA = 25°C unless otherwise specified

Characteristic		Symbol	Value	Un
Forward Voltage	$@ I_F = 3.0A$	V_{FM}	1.15	V
Peak Reverse Current at Rated DC Blocking Voltage	@ T _A = 25°C @ T _A = 125 °C	I _{RM}	10 250	μA
Typical Total Capacitance (Note 5)		CT	40	pF

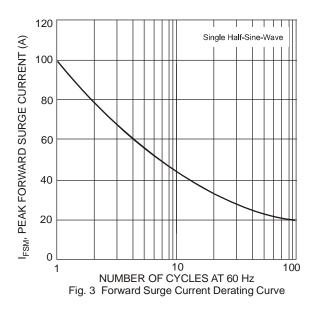
Notes:

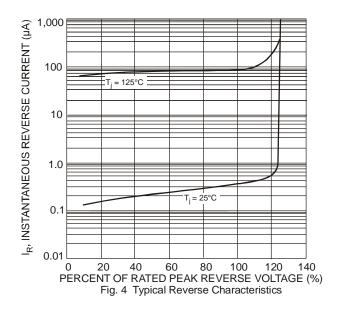
- 4. Thermal resistance: Junction to Terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pad as heat sink.
- 5. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.



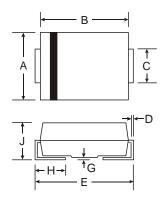








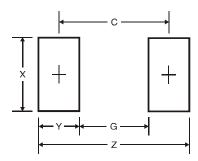
Package Outline Dimensions



SMB					
Dim	Min	Max			
Α	3.30	3.94			
В	4.06	4.57			
С	1.96	2.21			
D	0.15	0.31			
E	5.00	5.59			
G	0.05	0.20			
Н	0.76	1.52			
J	2.00	2.50			
All Dimensions in mm					

SMC						
Dim	Min	Max				
Α	5.59	6.22				
В	6.60	7.11				
C	2.75	3.18				
D	0.15	0.31				
Е	7.75	8.13				
G 0.10 0.2						
Η	0.76	1.52				
J	2.00	2.50				
All Dimensions in mm						

Suggested Pad Layout



SMB Dimensions	Value (in mm)
Z	6.7
G	1.8
X	2.3
Y	2.5
С	4.3

SMC Dimensions	Value (in mm)
Z	9.3
G	4.4
Х	3.3
Υ	2.5
С	6.8



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