8.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER

Product Summary @T_A = +25°C

V_{RRM} (V)	I_O (A)	V_F (V)	I_R (μA)
800, 1000	8	0.985	10

Features and Benefits

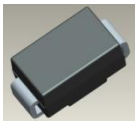
- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 200A Peak
- Ideally Suited for Automated Assembly
- **Lead Free Finish/RoHS Compliant (Note 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Description and Applications

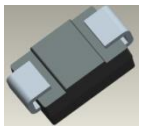
8.0A Surface Mount Glass Passivated Rectifier in SMC package, offers high current capability and low forward voltage drop, designed with Guard Ring for Transient Protection and high surge capacity.

Mechanical Data

- Case: SMC
- Case Material: Molded Plastic.
  UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (Approximate)



Top View



Bottom View

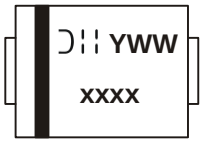
Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
S8xC-13	Commercial	SMC	3,000/Tape & Reel

*x = Device type, e.g. S8MC-13.

Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



xxxx = Product type marking code, ex: S8KC
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year (ex: 7 for 2007)
WW = Week code 01 to 52

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

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

Characteristic	Symbol	S8KC	S8MC	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	800	1,000	V
RMS Reverse Voltage	$V_{R(RMS)}$	560	700	V
Average Rectified Output Current @ T_T = +75°C	I_O	8.0		A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	200		A
Non-Repetitive Peak Forward Surge Current, 1.0ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	450		A
I^2t Rating for fusing (t < 8.3ms)	I^2t	166		A^2S

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 6)	$R_{\theta JT}$	10	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value		Unit
Minimum Reverse Breakdown Voltage	@I_R = 10μA	$V_{(BR)R}$	S8MC S8KC	1,000 800	V
Maximum Forward Voltage	@ I_F = 8.0A	V_{FM}	0.985		V
Peak Reverse Current	@T_A = +25°C @T_A = +125°C	I_{RM}	10 250		μA
Typical Reverse Recovery Time (Note 7)		T_{RR}	2,700		ns
Typical Total Capacitance (Note 5)		C_T	45		pF

Note: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal resistance junction to terminal, device mounted on 100.5mm x 102.5mm x 1.7mm Cu plate heatsink.
7. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A.

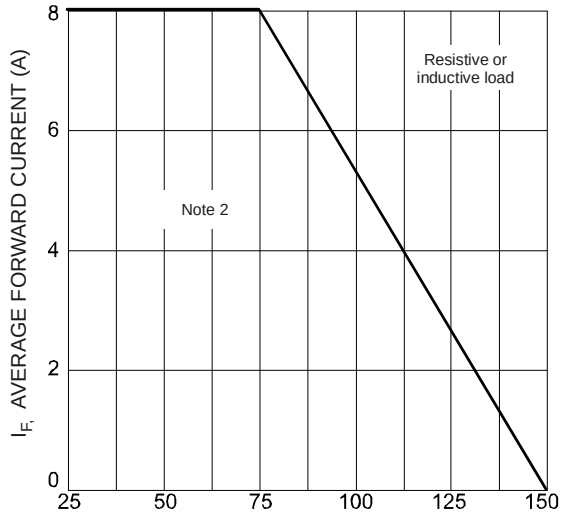


Fig. 1 Forward Current Derating Curve

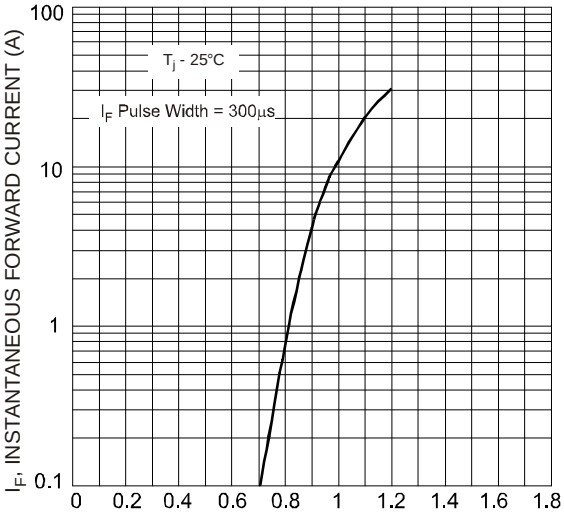


Fig. 2 Typical Forward Characteristics

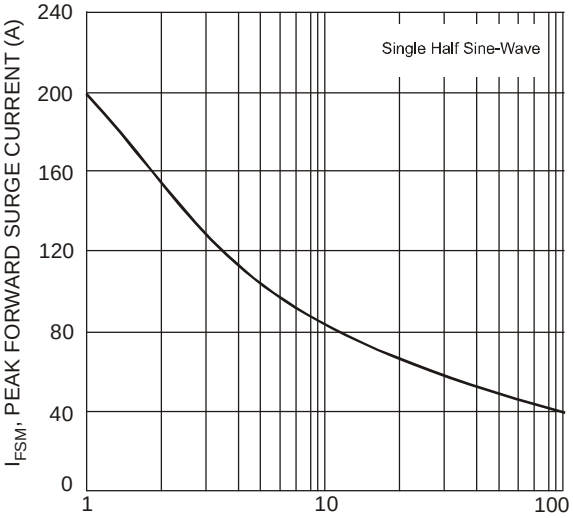


Fig. 3 Forward Surge Current Derating Curve

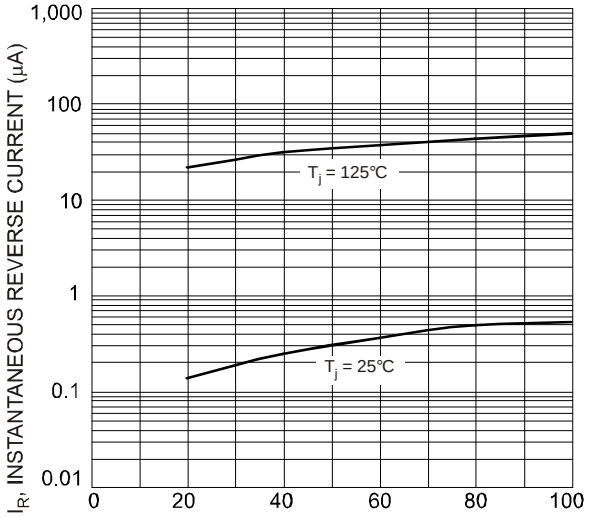
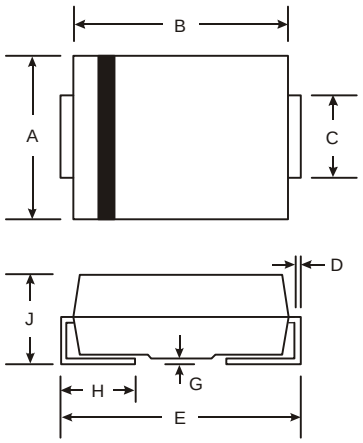


Fig. 4 Typical Reverse Characteristics

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.



SMC		
Dim	**Min**	**Max**
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

Suggested Pad Layout

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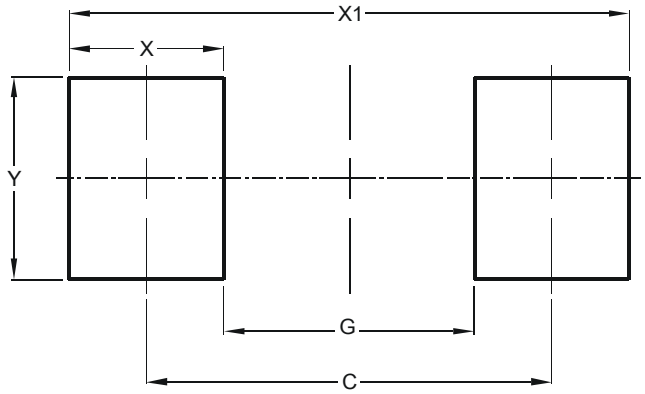

Dimensions	Value (in mm)
C	6.80
G	4.40
X	2.50
X1	9.40
Y	3.30