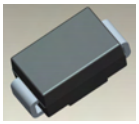
8.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER

Features

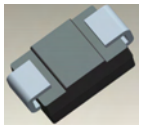
- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 200A Peak
- Ideally Suited for Automated Assembly
- **Lead Free Finish/RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

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
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.21 grams (approximate)



Top View



Bottom View

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	1000	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

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, T_{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
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 Total Capacitance (Note 3)		C_T	40	pF

Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/quality/lead_free.html.
2. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
4. Thermal resistance junction to terminal, device mounted on 100.5mm x 102.5mm x 1.7mm Cu plate heatsink.

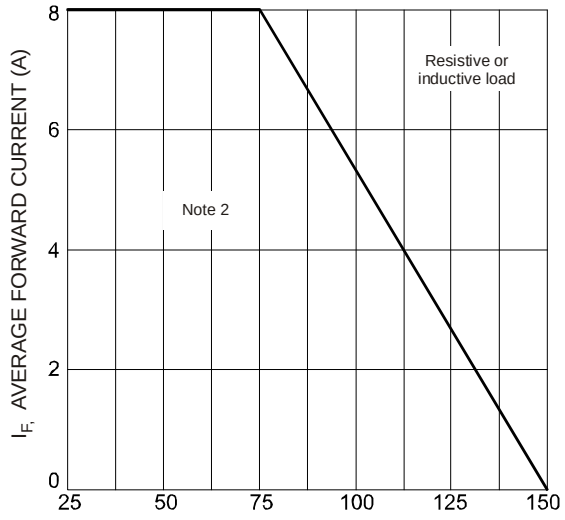


Fig. 1 Forward Current Derating Curve

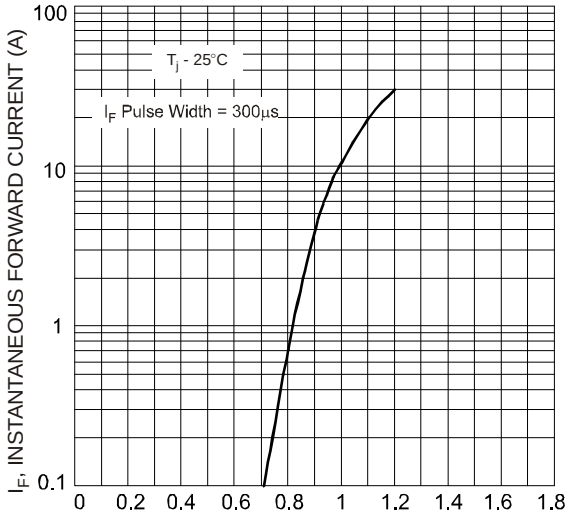


Fig. 2 Typical Forward Characteristics

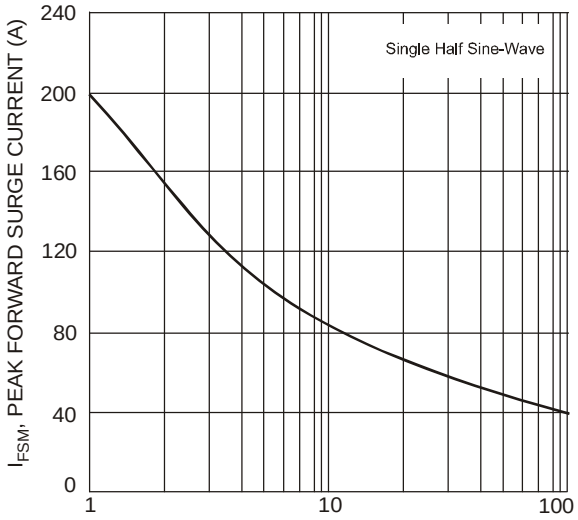


Fig. 3 Forward Surge Current Derating Curve

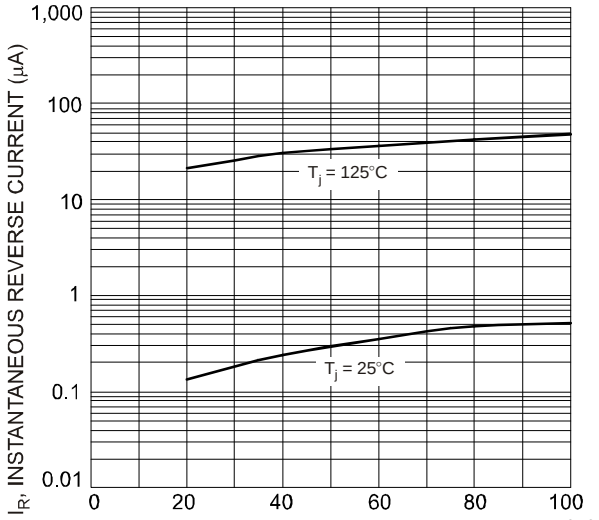


Fig. 4 Typical Reverse Characteristics

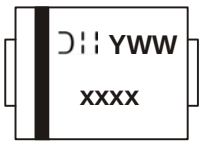
Ordering Information (Note 5)

Part Number	Case	Packaging
S8xC-13	SMC	3000/Tape & Reel

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

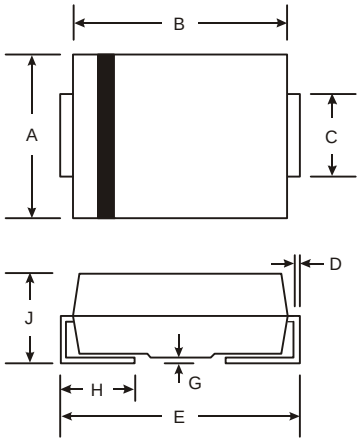
Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



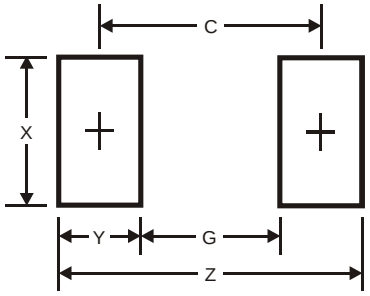
xxxx = Product type marking code, ex: S8KC
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year (ex: 7 for 2007)
WW = Week code 01 to 52

Package Outline Dimensions



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	2.62
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	9.3
G	4.4
X	3.3
Y	2.5
C	6.8

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