



S5AC - S5MC

#### 5.0A 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 (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

### **Mechanical Data**

- Case: 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 (3)
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (Approximate)





Top View

Bottom

### **Ordering Information** (Note 4)

Part Number	Case	Packaging		
S5xC-13-F	SMC	3,000/Tape & Reel		

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**





# **Maximum Ratings** ( $@T_A = +25^{\circ}C$ , unless otherwise specified.)

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

For capacitance load, derate current by 20%.

Characteristic	Symbol	S5AC	S5BC	S5DC	S5GC	S5JC	S5KC	S5MC	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$egin{array}{c} V_{RRM} \ V_{RWM} \ V_{R} \end{array}$	50	100	200	400	600	800	1,000	٧
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @ T <sub>T</sub> = +75°C	lo				5.0				Α
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>				100				Α
Non-Repetitive Peak Forward Surge Current, 1.0ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>				200				Α

### **Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal (Note 5)	R <sub>0JT</sub>	10	°C/W
Operating and Storage Temperature Range	T <sub>J.</sub> T <sub>STG</sub>	-65 to +150	°C

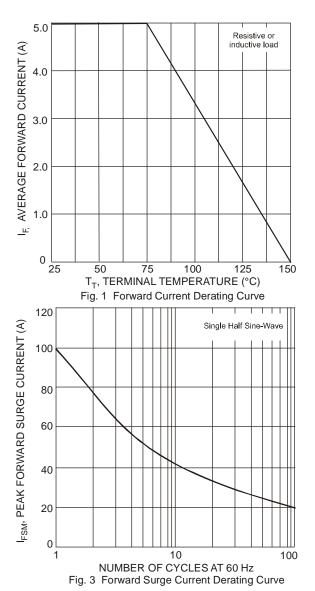
### Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

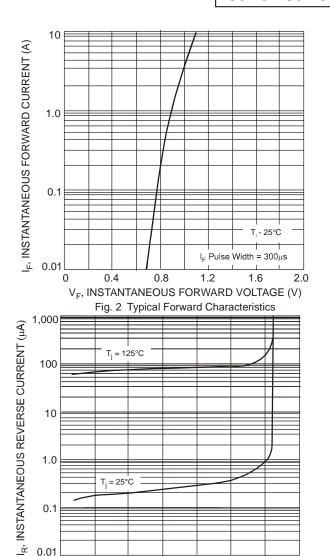
Characteristic	C	Symbol	Value	Unit
Maximum Forward Voltage	@ I <sub>F</sub> = 5.0A	$V_{FM}$	1.15	V
Peak Reverse Current	@T <sub>A</sub> = +25°C		10	
at Rated DC Blocking Voltage	$@T_A = +125^{\circ}C$	IRM	250	μA
Typical Total Capacitance (Note 6)		Ст	40	pF

Notes:

- 5. Thermal Resistance Junction to Terminal, unit mounted on PC board with 5.0mm2 (0.013mm thick) copper pads as Heat Sink.
- 6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.







0.01

20

40

60

80

PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

Fig. 4 Typical Reverse Characteristics

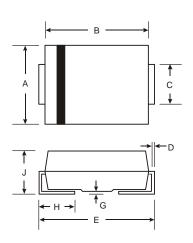
100

120



# **Package Outline Dimensions**

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



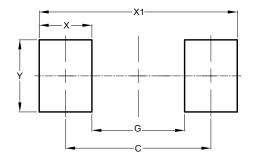
### SMC

SMC						
Dim	Min	Max				
Α	5.59	6.22				
В	6.60	7.11				
С	2.75	3.18				
D	0.15	0.31				
Е	7.75	8.13				
G	0.10	0.20				
Н	0.76	1.52				
J	2.00	2.50				
All Dimensions in mm						

# **Suggested Pad Layout**

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

### SMC



Dimensions	Value		
Dilliensions	(in mm)		
С	6.90		
G	4.40		
Х	2.50		
X1	9.40		
Υ	3.30		

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