



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**



S5xC = Product Type Marking Code, Ex: S5KC | S5xC = Manufacturers' Code Marking | S5xC = Manufacturers' Code Marking | Y = Last Digit of Year (ex: 7 for 2017) | YWW = Week Code (01 to 53)



# **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	$egin{array}{c} egin{array}{c} egin{array}$	50	100	200	400	600	800	1,000	V
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					200				Α

### **Thermal Characteristics**

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

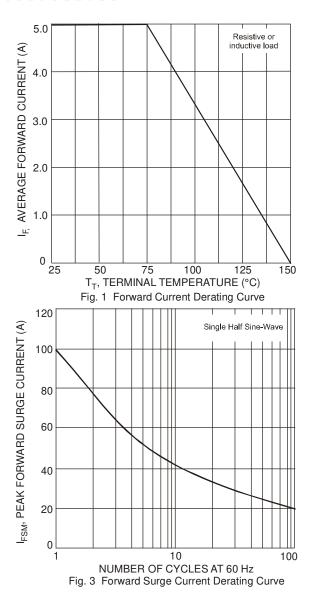
### Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Maximum Forward Voltage	@ $I_F = 5.0A$	$V_{FM}$	1.15	٧
Peak Reverse Current at Rated DC Blocking Voltage	$@T_A = +25^{\circ}C$ $@T_A = +125^{\circ}C$	I <sub>RM</sub>	10 250	μΑ
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.





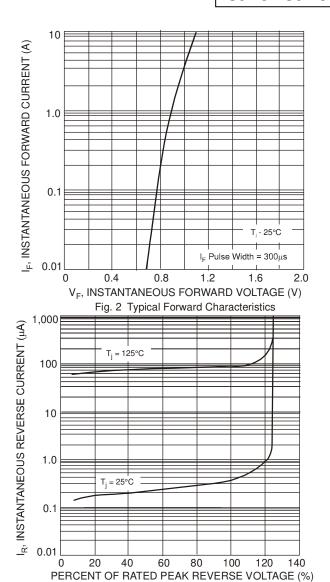
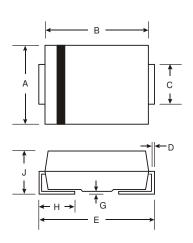


Fig. 4 Typical Reverse Characteristics



# **Package Outline Dimensions**

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



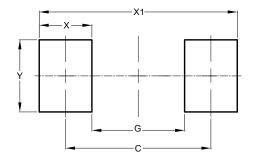
### SMC

SMC						
Dim	Min	Max				
Α	5.59	6.22				
В	6.60	7.11				
С	2.75	3.18				
D	0.15	0.31				
E	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		
Dimensions	(in mm)		
С	6.90		
G	4.40		
X	2.50		
X1	9.40		
Υ	3.30		



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