

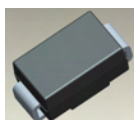
## 5.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER

### 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 (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-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.21 grams (approximate)



Top View



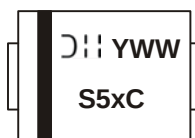
Bottom View

### Ordering Information (Note 3)

| Part Number | Case | Packaging        |
|-------------|------|------------------|
| S5xC-13-F   | SMC  | 3000/Tape & Reel |

- 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



S5xC = Product type marking code, Ex. S5KC  
 DII = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year (ex: 2 for 2002)  
 WW = Week code (01 to 53)

**Maximum Ratings** @T<sub>A</sub> = 25°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                                                                   | V <sub>RRM</sub>    | 50   | 100  | 200  | 400  | 600  | 800  | 1000 | V    |
| Working Peak Reverse Voltage                                                                      | V <sub>RWM</sub>    |      |      |      |      |      |      |      |      |
| DC Blocking Voltage                                                                               | V <sub>R</sub>      |      |      |      |      |      |      |      |      |
| 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                                          | I <sub>O</sub>      | 5.0  |      |      |      |      |      |      | A    |
| Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>    | 100  |      |      |      |      |      |      | A    |

**Thermal Characteristics**

| Characteristic                                            | Symbol                            | Value       | Unit |
|-----------------------------------------------------------|-----------------------------------|-------------|------|
| Typical Thermal Resistance, Junction to Terminal (Note 4) | R <sub>θJT</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                                        | Symbol          | Value | Unit |
|-------------------------------------------------------|-----------------|-------|------|
| Forward Voltage @ I <sub>F</sub> = 5.0A               | V <sub>FM</sub> | 1.15  | V    |
| Peak Reverse Current @ T <sub>A</sub> = 25°C          | I <sub>RM</sub> | 10    | μA   |
| at Rated DC Blocking Voltage @ T <sub>A</sub> = 125°C |                 | 250   |      |
| Typical Total Capacitance (Note 3)                    | C <sub>T</sub>  | 40    | pF   |

Notes: 4. Thermal Resistance Junction to Terminal, unit mounted on PC board with 5.0mm<sup>2</sup> (0.013mm thick) copper pads as Heat Sink.  
 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

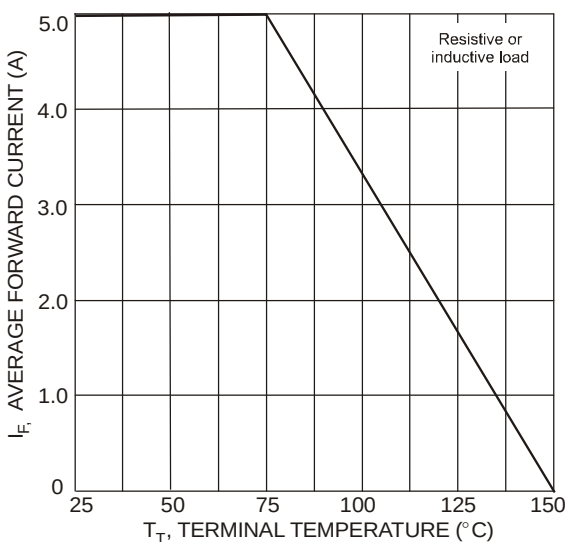


Fig. 1 Forward Current Derating Curve

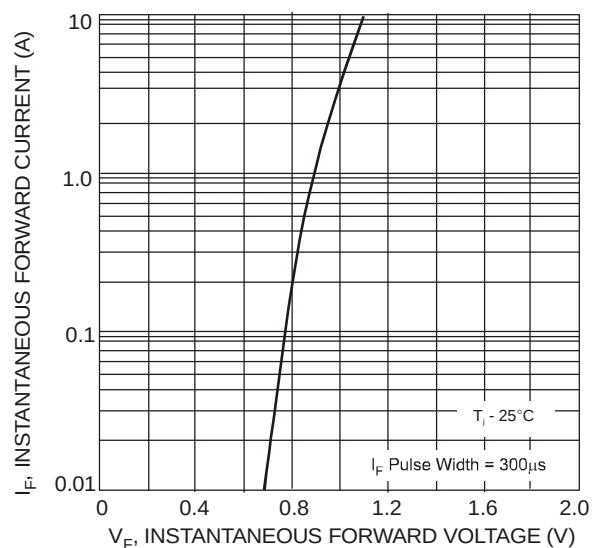


Fig. 2 Typical Forward Characteristics

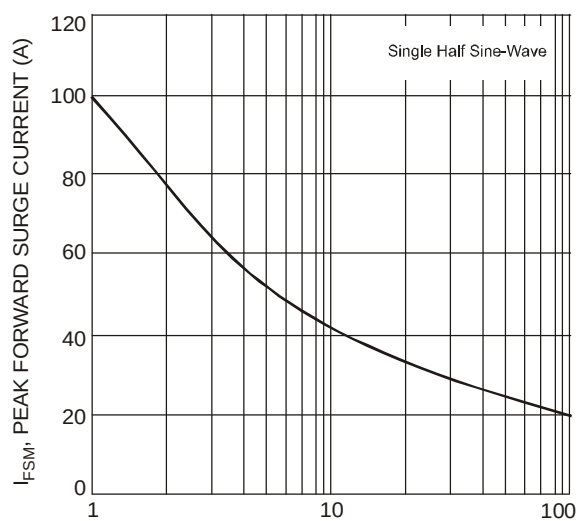


Fig. 3 Forward Surge Current Derating Curve

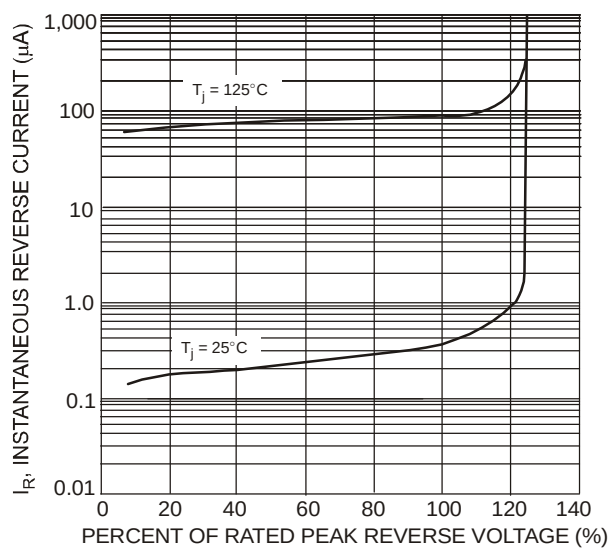
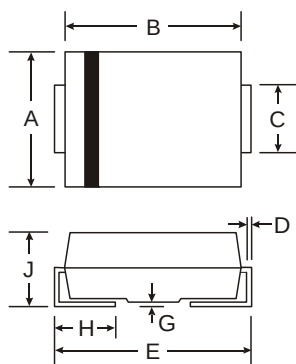


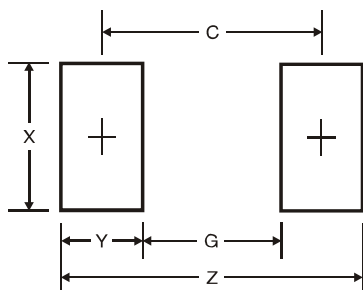
Fig. 4 Typical Reverse Characteristics

## Package Outline Dimensions



| 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



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

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