

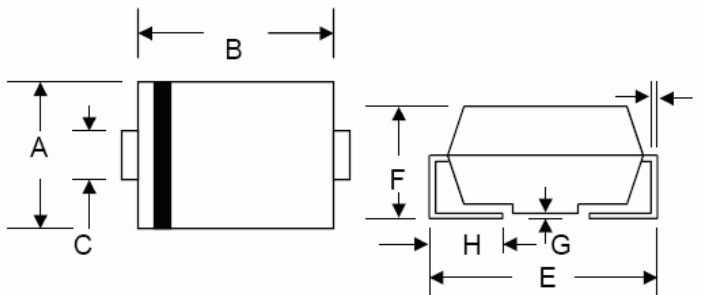


Technical Data  
Data Sheet N0565, Rev. -

Green Products

### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop
- Surge Overload Rating to 100A Peak
- Low Power Loss
- Built-in Strain Relief
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



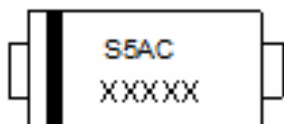
| SMC/DO-214AB |       |       |         |       |
|--------------|-------|-------|---------|-------|
| Dim          | Min   | Max   | Min     | Max   |
| A            | 5.59  | 6.22  | 0.220   | 0.245 |
| B            | 6.60  | 7.11  | 0.260   | 0.280 |
| C            | 2.75  | 3.25  | 0.108   | 0.128 |
| D            | 0.152 | 0.305 | 0.006   | 0.012 |
| E            | 7.75  | 8.13  | 0.305   | 0.320 |
| F            | 2.00  | 2.62  | 0.079   | 0.103 |
| G            | 0.051 | 0.203 | 0.002   | 0.008 |
| H            | 0.76  | 1.27  | 0.030   | 0.05  |
|              | In mm |       | In inch |       |

### Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)

### Marking Diagram:

Where XXXXX is YYWWL



S5AC = Part Name  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

### Ordering Information

| Device    | Package          | Shipping       |
|-----------|------------------|----------------|
| S5AC-S5MC | SMC<br>(Pb-Free) | 3000pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.



**Maximum Ratings and Electrical Characteristics** @ $T_A=25^\circ\text{C}$  unless otherwise specified

| Characteristic  | Symbol                          | S5AC        | S5BC | S5DC | S5GC | S5JC | S5KC | S5MC | Unit               |
|---|---------------------------------|-------------|------|------|------|------|------|------|--------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                  |
| RMS Reverse Voltage   | $V_{R(RMS)}$                    | 35          | 70   | 140  | 280  | 420  | 560  | 700  | V                  |
| Average Rectified Output Current @ $T_L = 75^\circ\text{C}$   | $I_o$                           | 5.0         |      |      |      |      |      |      | A                  |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | $I_{FSM}$                       | 100         |      |      |      |      |      |      | A                  |
| Forward Voltage @ $I_F = 5.0\text{A}$   | $V_{FM}$                        | 1.15        |      |      |      |      |      |      | V                  |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$           | $I_{RM}$                        | 10<br>250   |      |      |      |      |      |      | $\mu\text{A}$      |
| Typical Junction Capacitance (Note 1)   | $C_j$                           | 40          |      |      |      |      |      |      | pF                 |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JL}$                 | 10          |      |      |      |      |      |      | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range   | $T_j, T_{STG}$                  | -65 to +150 |      |      |      |      |      |      | $^\circ\text{C}$   |

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
2. Mounted on P.C. Board with  $8.0\text{mm}^2$  land area.



Technical Data  
Data Sheet N0565, Rev. -

Green Products

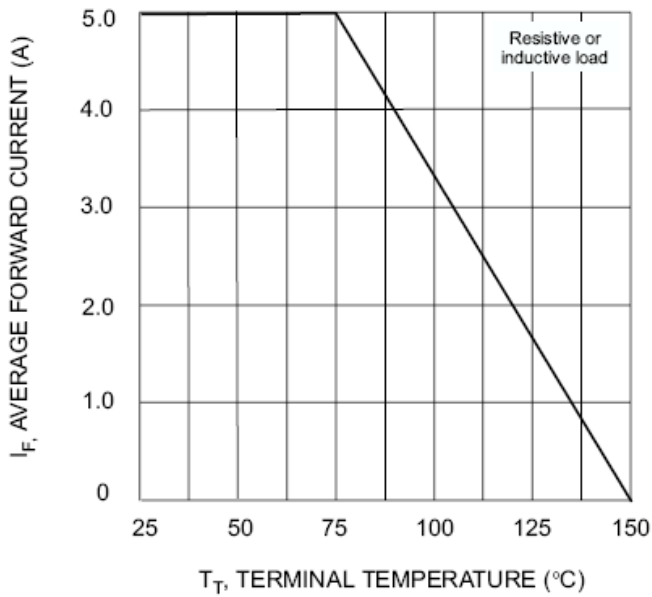


Fig. 1 Forward Current Derating Curve

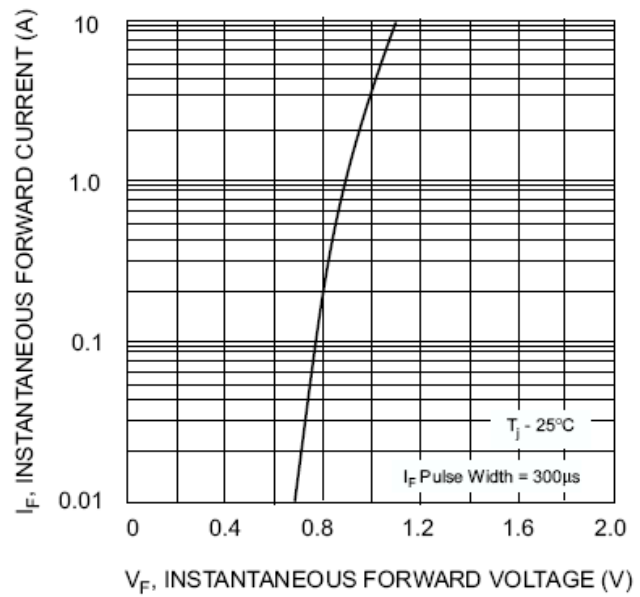


Fig. 2 Typical Forward Characteristics

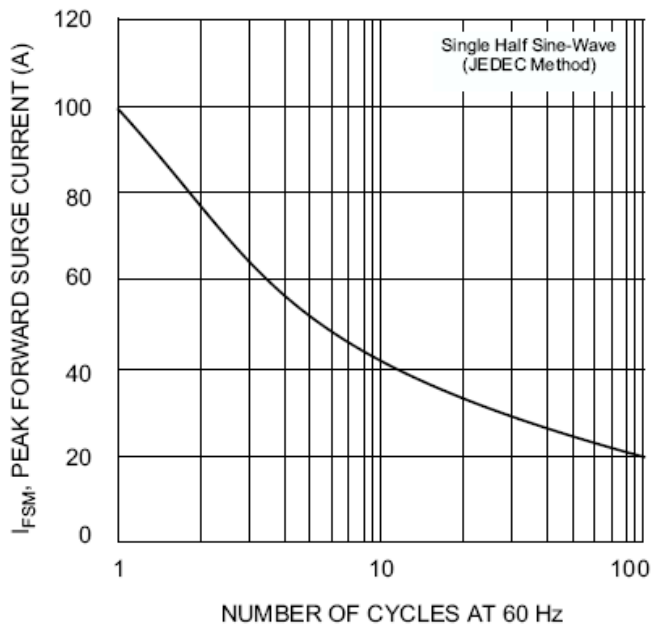


Fig. 3 Forward Surge Current Derating Curve

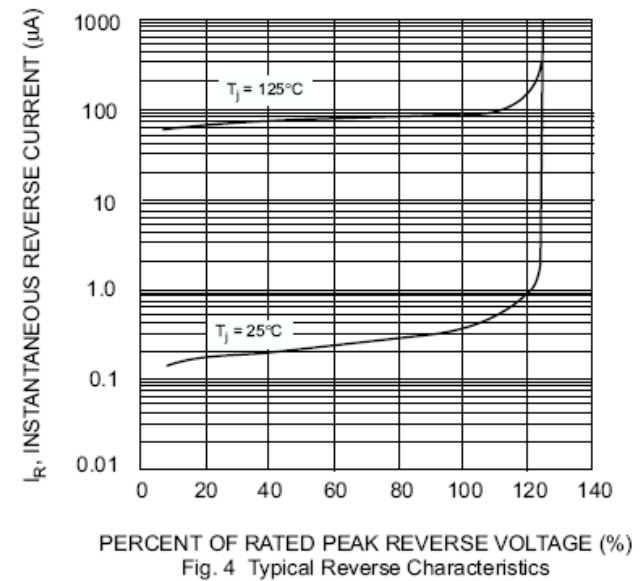


Fig. 4 Typical Reverse Characteristics



**DISCLAIMER:**

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..