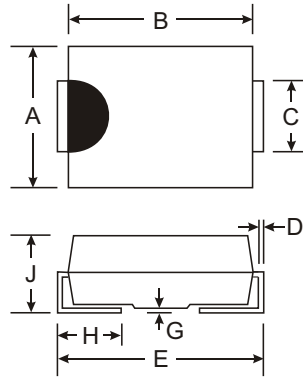


Features

- Glass Passivated Die Construction
- Super-Fast Recovery Time For High Efficiency
- Surge Overload Rating to 50A Peak
- Ideally Suited for Automated Assembly
- Lead Free Finish/RoHS Compliant (Note 4)**



| SMB | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 3.30 | 3.94 |
| B | 4.06 | 4.57 |
| C | 1.96 | 2.21 |
| D | 0.15 | 0.31 |
| E | 5.00 | 5.59 |
| G | 0.10 | 0.20 |
| H | 0.76 | 1.52 |
| J | 2.00 | 2.62 |
| All Dimensions in mm | | |

Mechanical Data

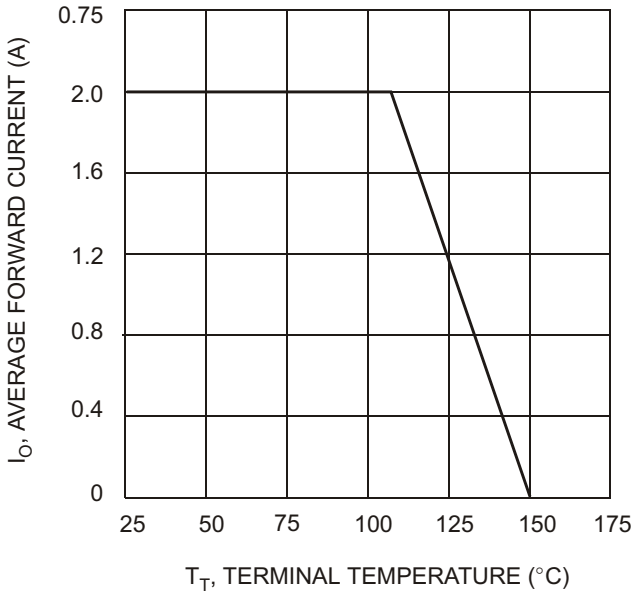
- Case: SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Cathode Band or Cathode Notch
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.093 grams (approximate)

Maximum Ratings and Electrical Characteristics @ T_A = 25 C unless otherwise specified

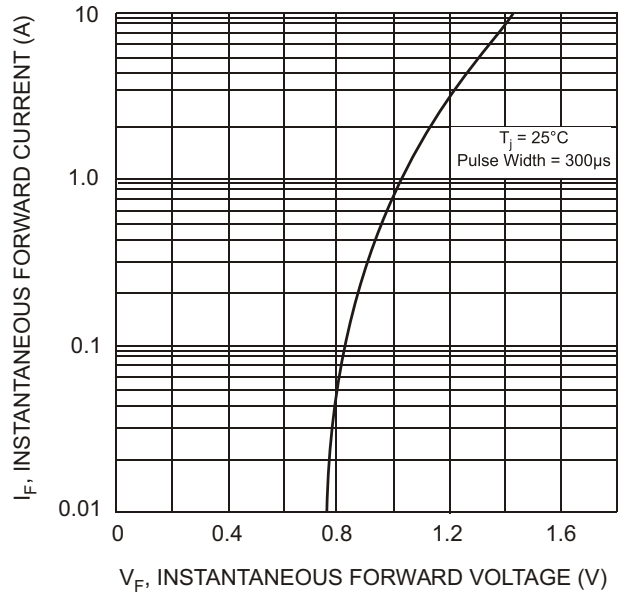
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | Value | Unit |
|--|--|-------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 5) | V _{RRM} V _{RWM} V _R | 400 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 280 | V |
| Average Rectified Output Current @ T _T = 110 C | I _O | 2.0 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load | I _{FSM} | 50 | A |
| Forward Voltage @ I _F = 2.0A | V _{FM} | 1.25 | V |
| Peak Reverse Current @ T _A = 25 C at Rated DC Blocking Voltage (Note 5) @ T _A = 125 C | I _{RM} | 5.0 350 | A |
| Reverse Recovery Time (Note 3) | t _{rr} | 35 | ns |
| Typical Capacitance (Note 2) | C _T | 25 | pF |
| Typical Thermal Resistance, Junction to Terminal (Note 1) | R _{JT} | 20 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | C |

- Notes:
1. Unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See Figure 5.
 4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.
 5. Short duration pulse test used to minimize self-heating effect



T_T , TERMINAL TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics

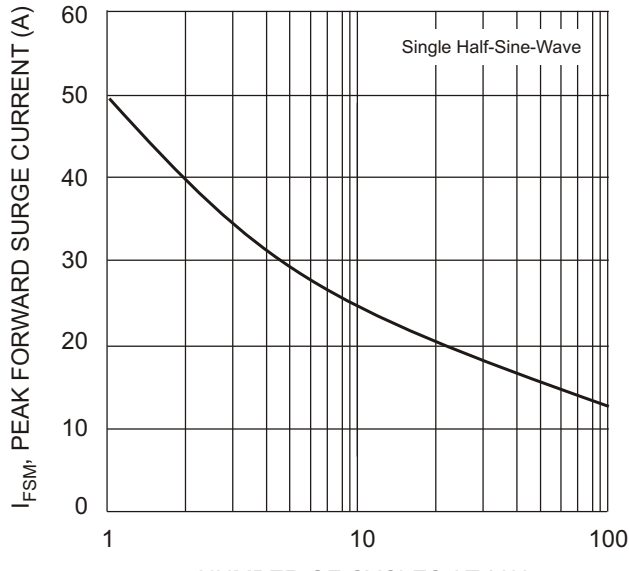


Fig. 3 Surge Current Derating Curve

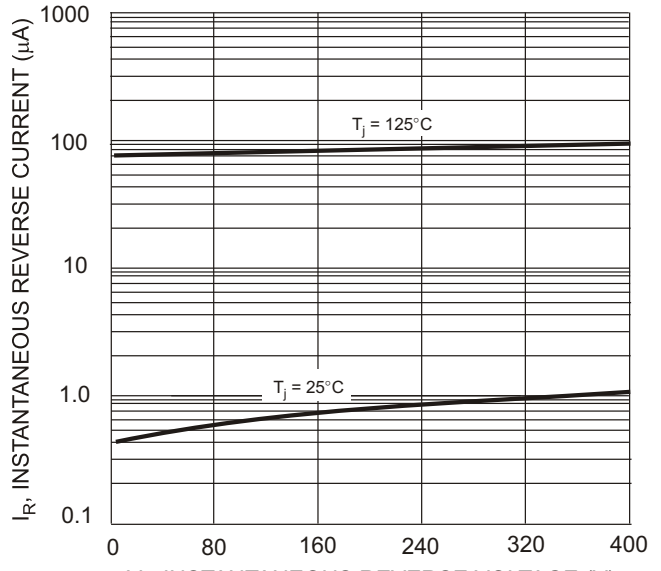
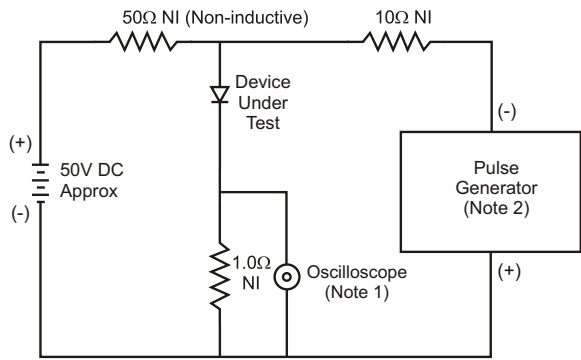
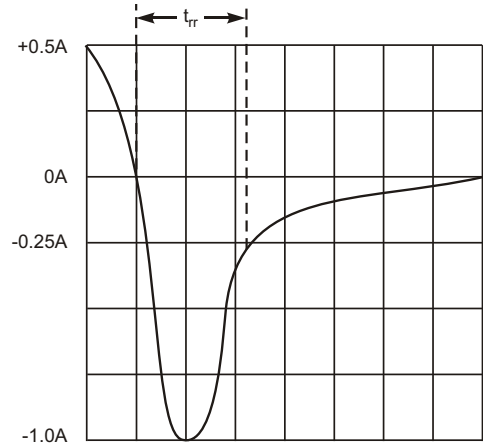


Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

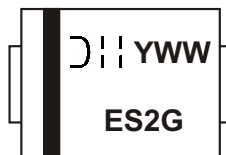
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Ordering Information

(Note 6)

| Device | Packaging | Shipping |
|-----------|-----------|------------------|
| ES2G-13-F | SMB | 5000/Tape & Reel |

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

ES2G = Product type marking code
D: = Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52

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