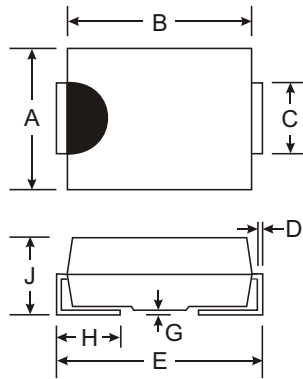


Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 100A Peak
- Ideally Suited for Automatic Assembly
- Available in Lead Free Finish/RoHS Compliant Version (Note 3)

Mechanical Data

- Case: SMB/SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 5, on Page 2
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number & Date Code, See Page 2
- Ordering Information: See Page 2
- Weight: SMB 0.093 grams (approximate)
SMC 0.21 grams (approximate)



| Dim | SMB | | SMC | |
|----------------------|------|------|------|------|
| | Min | Max | Min | Max |
| A | 3.30 | 3.94 | 5.59 | 6.22 |
| B | 4.06 | 4.57 | 6.60 | 7.11 |
| C | 1.96 | 2.21 | 2.75 | 3.18 |
| D | 0.15 | 0.31 | 0.15 | 0.31 |
| E | 5.00 | 5.59 | 7.75 | 8.13 |
| G | 0.10 | 0.20 | 0.10 | 0.20 |
| H | 0.76 | 1.52 | 0.76 | 1.52 |
| J | 2.00 | 2.62 | 2.00 | 2.62 |
| All Dimensions in mm | | | | |

AB, BB, DB, GB, JB, KB, MB Suffix Designates SMB Package
A, B, D, G, J, K, M Designates SMC Package

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 | S3 A/AB | S3 B/BB | S3 D/DB | S3 G/GB | S3 J/JB | S3 K/KB | S3 M/MB | Unit |
|---|---|-------------|---------|---------|---------|---------|---------|---------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{VRWM} V _R | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 30 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current @ T _T = 75°C | I _O | 3.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 100 | | | | | | | A |
| Forward Voltage @ I _F = 3.0A | V _{FM} | 1.15 | | | | | | | V |
| Peak Reverse Current @ T _A = 25°C at Rated DC Blocking Voltage @ T _A = 125 °C | I _{RM} | 10 250 | | | | | | | μA |
| Typical Total Capacitance (Note 1) | C _T | 40 | | | | | | | pF |
| Typical Thermal Resistance Junction to Terminal (Note 2) | R _{θJT} | 10 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | -65 to +150 | | | | | | | °C |

- Notes:
1. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
 2. Thermal resistance: Junction to Terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pad as heat sink.
 3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

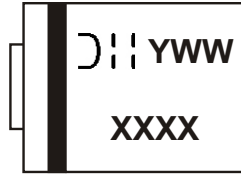
Ordering Information (Note 4)

| Device* | Packaging | Shipping |
|-------------------|------------|------------------|
| S3xB-13 S3x-13 | SMB SMC | 3000/Tape & Reel |

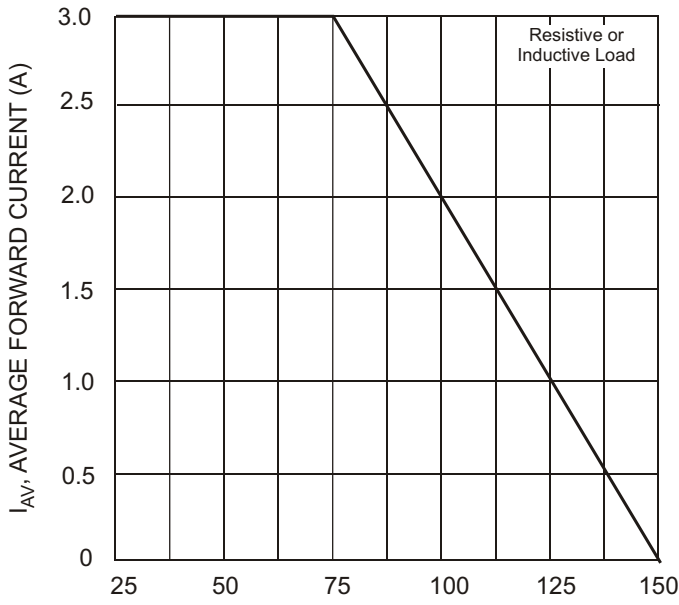
*x = Device type, e.g. S3AB-13 (SMB package); S3A-13 (SMC Package).

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - For Lead Free Finish; RoHS Compliant version part numbers, please add "-F" suffix to the part numbers above. Example: S3AB-13-F.

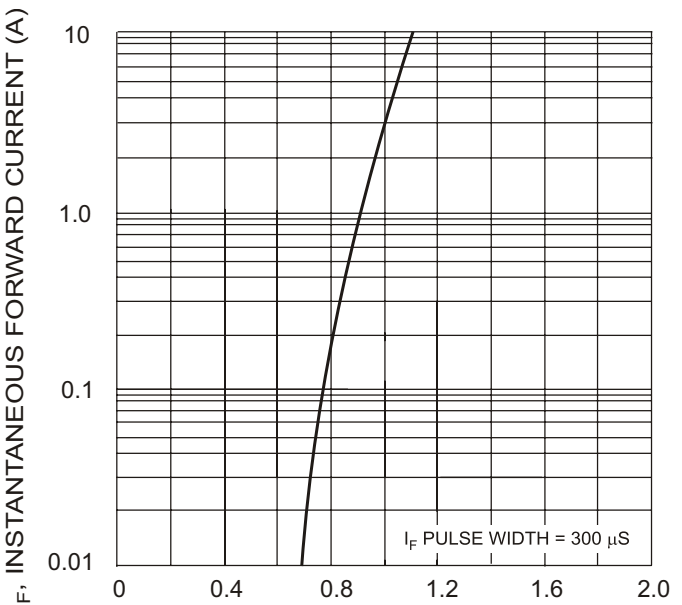
Marking Information



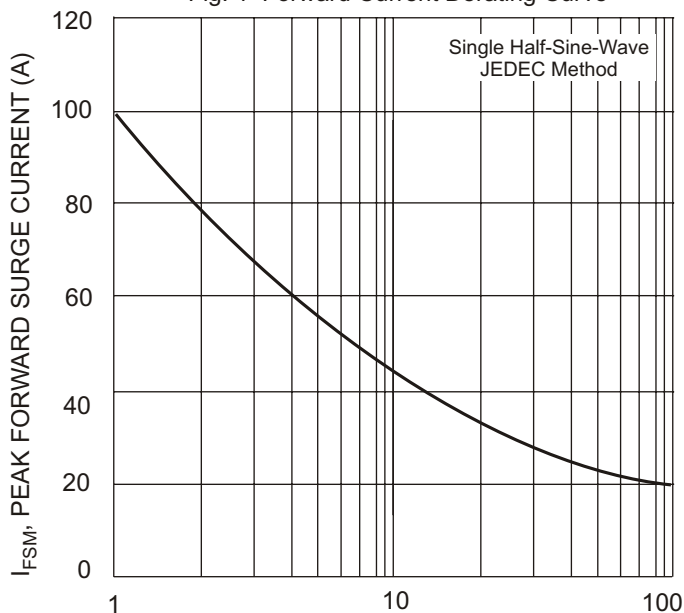
XXXX = Product type marking code, ex. S5KC
 D;: = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year ex: 2 for 2002
 WW = Week code 01 to 52



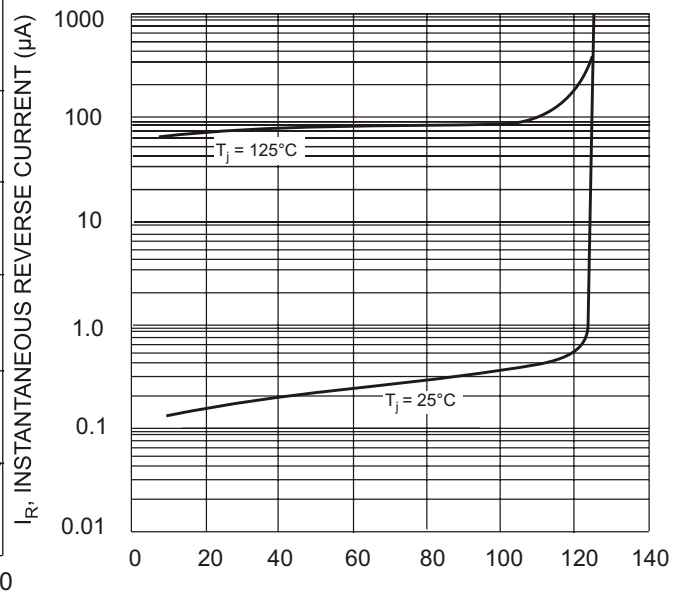
T_T , TERMINAL TEMPERATURE (°C)
 Fig. 1 Forward Current Derating Curve



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



NUMBER OF CYCLES AT 60 Hz
 Fig. 3 Forward Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
 Fig. 4 Typical Reverse Characteristics