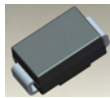


Features

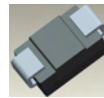
- Ultra Low Forward Voltage Drop
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

Mechanical Data

- Case: SMA
- 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 Indicator: Cathode Band
- Weight: 0.064 grams (approximate)



Top View



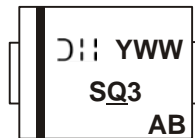
Bottom View

Ordering Information (Note 3)

| Part Number | Case | Packaging |
|---------------|------|------------------|
| SBR2U30SA -13 | SMA | 5000/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



SQ3 = Product Type Marking Code
 = Manufacturers' code marking
 YWW = Date Code Marking
 Y = Last digit of year (ex: 7 for 2007)
 WW = Week code (01 to 53)
 AB = Foundry and Assembly Code

Maximum Ratings @T_A = 25°C unless otherwise specified

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

| Characteristic | Symbol | Value | Unit |
|--|---------------------|-------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 30 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _{RM} | | |
| RMS Reverse Voltage | V _{R(RMS)} | 21 | V |
| Average Rectified Output Current (See Figure 1) | I _O | 2.0 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 30 | A |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Maximum Thermal Resistance | | | |
| Thermal Resistance Junction to Soldering (Note 4) | R _{θJS} | 5 | °C/W |
| Thermal Resistance Junction to Ambient (Note 5) | R _{θJA} | 128 | |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | TYP | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|------|------|------|---|
| Reverse Breakdown Voltage (Note 6) | V _{(BR)R} | 30 | - | - | V | I _R = 400 μA |
| Forward Voltage Drop | V _F | | 0.21 | 0.26 | V | I _F = 0.1A, T _J = 25°C |
| | | | 0.11 | 0.15 | | I _F = 0.1A, T _J = 125°C |
| | | | 0.31 | 0.35 | | I _F = 1.0A, T _J = 25°C |
| | | | 0.23 | 0.30 | | I _F = 1.0A, T _J = 125°C |
| | | | 0.36 | 0.40 | | I _F = 2.0A, T _J = 25°C |
| | | | 0.30 | 0.33 | | I _F = 2.0A, T _J = 125°C |
| Leakage Current (Note 6) | I _R | | 210 | 500 | μA | V _R = 30V, T _J = 25 °C |
| | | | 23 | 100 | mA | V _R = 30V, T _J = 125 °C |

- Notes:
- Theoretical R_{θJS} calculated from the top center of the die straight down to the PCB cathode tab solder junction.
 - FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>. T_A = 25°C
 - Short duration pulse test used to minimize self-heating effect.

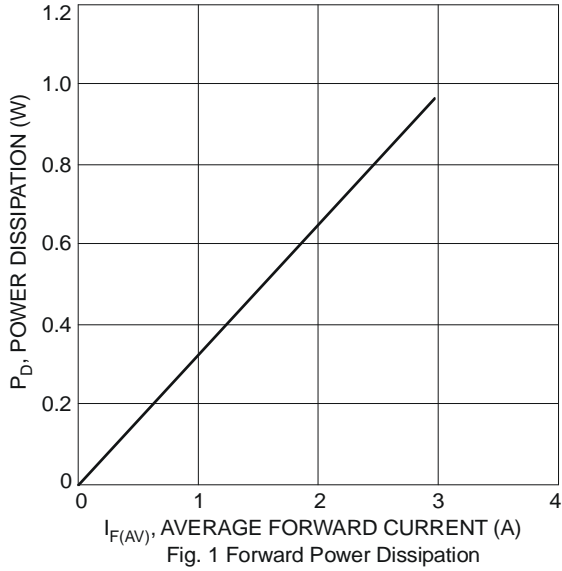


Fig. 1 Forward Power Dissipation

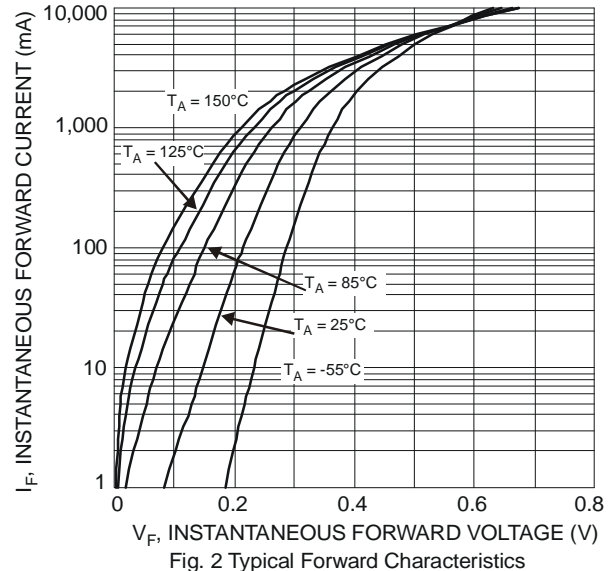


Fig. 2 Typical Forward Characteristics

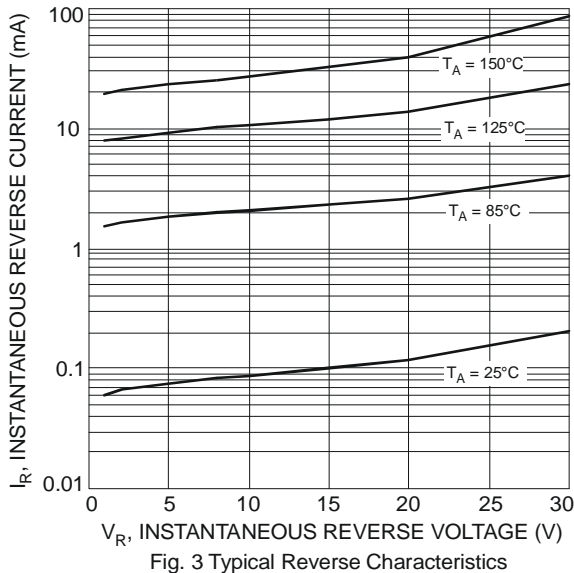


Fig. 3 Typical Reverse Characteristics

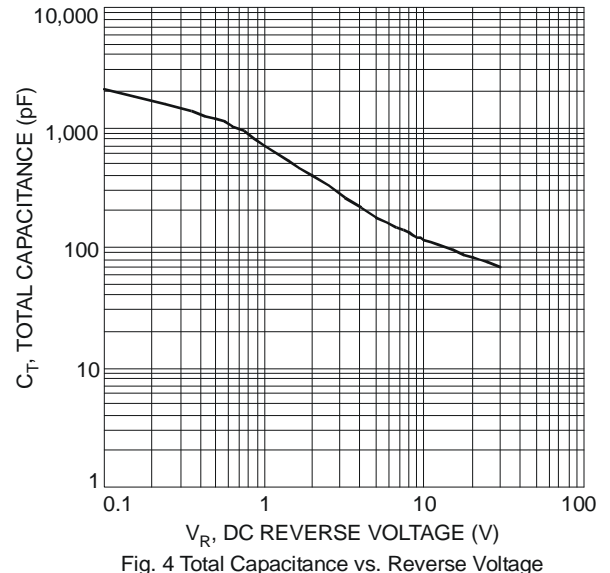


Fig. 4 Total Capacitance vs. Reverse Voltage

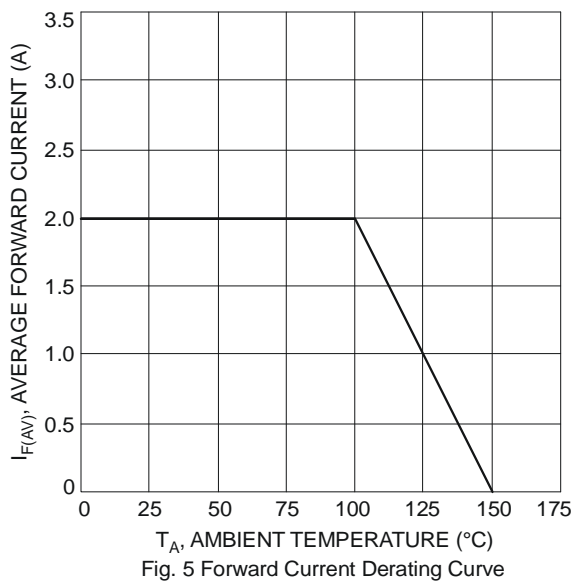


Fig. 5 Forward Current Derating Curve

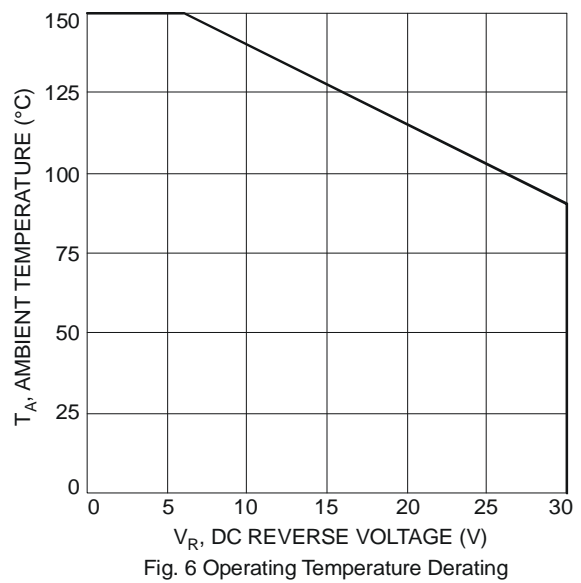
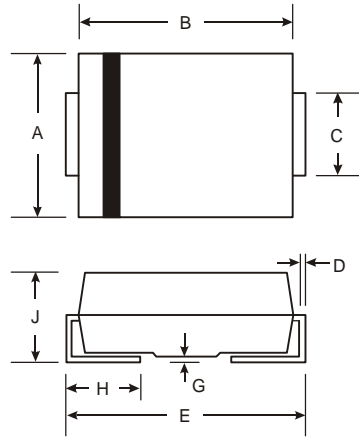


Fig. 6 Operating Temperature Derating

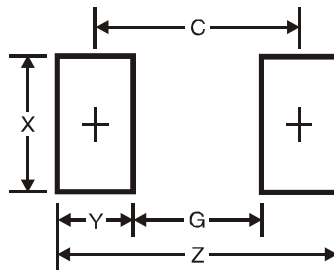
Package Outline Dimensions



| SMA | | |
|-----|------|------|
| Dim | Min | Max |
| A | 2.29 | 2.92 |
| B | 4.00 | 4.60 |
| C | 1.27 | 1.63 |
| D | 0.15 | 0.31 |
| E | 4.80 | 5.59 |
| G | 0.05 | 0.20 |
| H | 0.76 | 1.52 |
| J | 2.01 | 2.30 |

All Dimensions in mm

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 6.5 |
| G | 1.5 |
| X | 1.7 |
| Y | 2.5 |
| C | 4.0 |

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