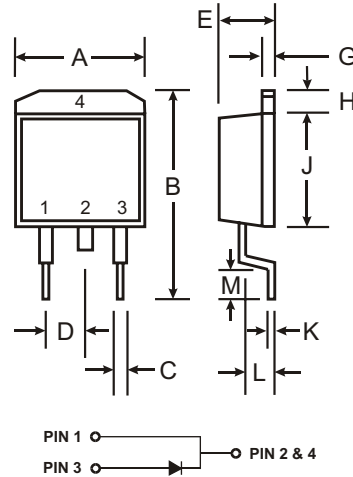


Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- Very Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: D²PAK Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: Type Number
- Weight: 1.7 grams (approx.)
- Ordering Information: See Sheet 2



| D ² PAK | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 9.65 | 10.69 |
| B | 14.60 | 15.88 |
| C | 0.51 | 1.14 |
| D | 2.29 | 2.79 |
| E | 4.37 | 4.83 |
| G | 1.14 | 1.40 |
| H | 1.14 | 1.40 |
| J | 8.25 | 9.25 |
| K | 0.30 | 0.64 |
| L | 2.03 | 2.92 |
| M | 2.29 | 2.79 |
| All Dimensions in mm | | |

Maximum Ratings @ T_A = 25°C unless otherwise specified

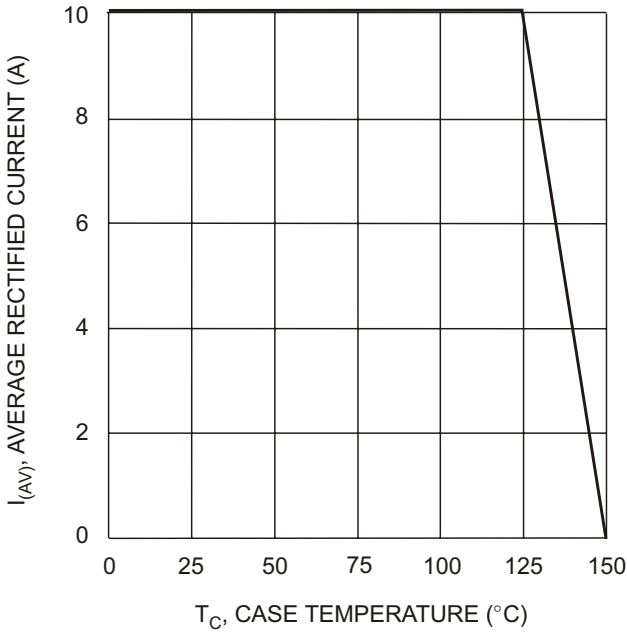
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | SBG1025L | SBG1030L | Unit |
|---|--|-------------|----------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 25 | 30 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 18 | 21 | V |
| Average Rectified Output Current @ T _C = 120°C | I _O | 10 | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method) | I _{FSM} | 200 | | A |
| Typical Thermal Resistance Junction to Case (Note 1) | R _{θJC} | 3.0 | | °C/W |
| Operating Temperature Range | T _j | -65 to +125 | | °C |
| Storage Temperature Range | T _{STG} | -65 to +150 | | °C |

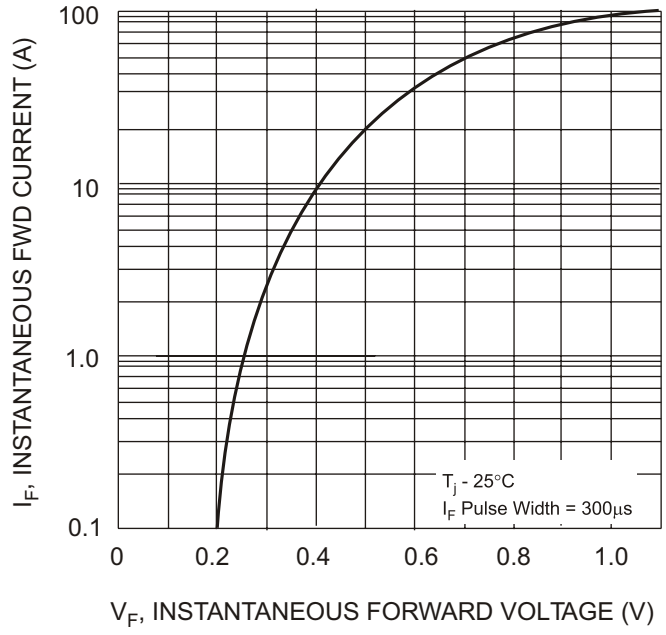
Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|--|--------------------|----------|------|------------------------------|--------|--|
| Reverse Breakdown Voltage SBG1025L SBG1030L | V _{(BR)R} | 25 30 | — | — | V V | I _R = 1mA |
| Forward Voltage | V _{FM} | — | 0.34 | 0.45 0.36 0.55 0.48 | V | @ I _F = 10A, T _C = 25°C @ I _F = 10A, T _C = 125°C @ I _F = 20A, T _C = 25°C @ I _F = 20A, T _C = 125°C |
| Peak Reverse Current at Rated DC Blocking Voltage | I _{RM} | — | 150 | 1.0 260 | mA | @ T _C = 25°C @ T _C = 125°C |
| Typical Junction Capacitance | C _j | — | 350 | — | pF | f = 1.0MHz, V _R = 4.0V DC |

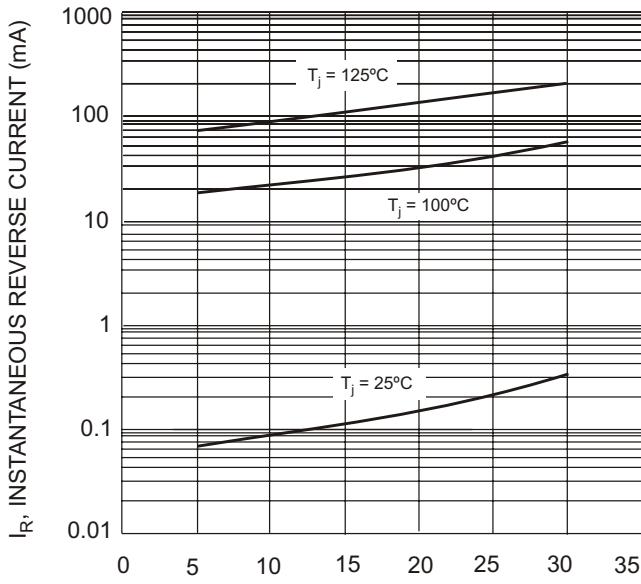
Notes: 1. Thermal resistance: junction to case mounted on heat sink.



T_C , CASE TEMPERATURE (°C)
Fig. 1 Forward Derating Curve



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



V_R , REVERSE VOLTAGE (V)
Fig. 3 Typical Reverse Characteristics

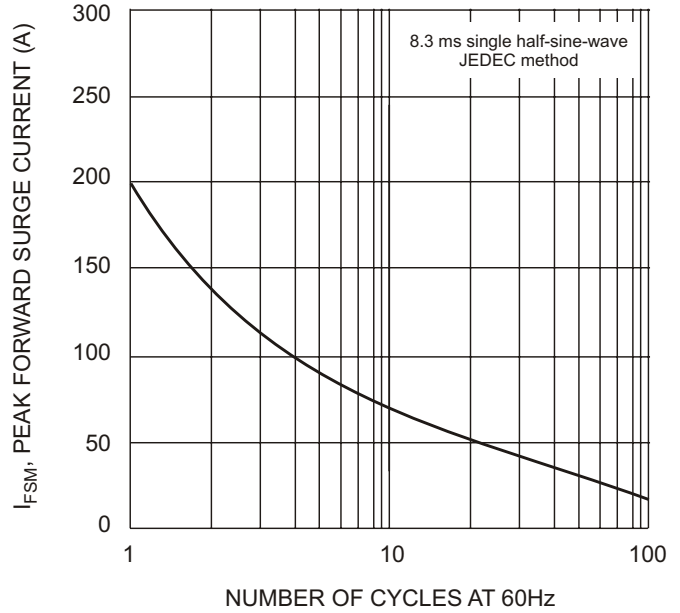


Fig. 4 Maximum Non-Repetitive Surge Current

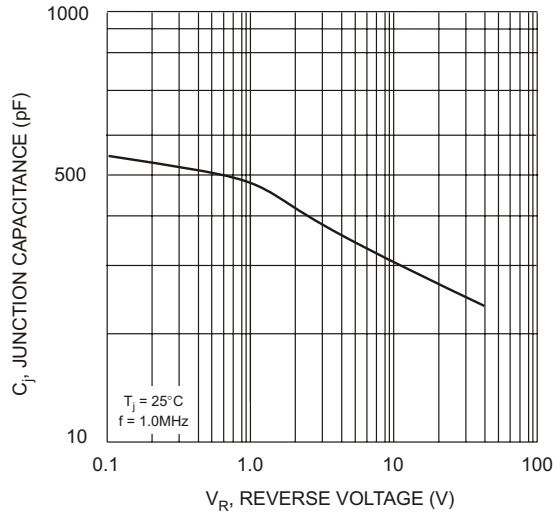


Fig. 5 Typical Junction Capacitance

Ordering Information (Note 2)

| Device | Packaging | Shipping |
|------------|--------------------|-----------------|
| SBG1025L | D ² PAK | 50/Tube |
| SBG1025L-T | D ² PAK | 800/Tape & Reel |
| SBG1030L | D ² PAK | 50/Tube |
| SBG1030L-T | D ² PAK | 800/Tape & Reel |

Notes: 2. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

SBG10XXL = Product type marking code (SBG1025L or SBG1030L)
DII = Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52