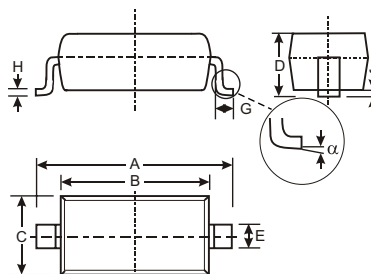


Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance

Mechanical Data

- Case: SOD-123, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Polarity: Cathode Band
- Leads: Solderable per MIL-STD-202, Method 208
- Marking: Date Code & Type Code, See Page 2
- Type Code: Marking: SE
- Weight: 0.01 grams (approx.)
- Ordering Information: See Page 2



| SOD-123 | | |
|----------------------|--------------|------|
| Dim | Min | Max |
| A | 3.55 | 3.85 |
| B | 2.55 | 2.85 |
| C | 1.40 | 1.70 |
| D | — | 1.35 |
| E | 0.55 Typical | |
| G | 0.25 | — |
| H | 0.11 Typical | |
| J | — | 0.10 |
| α | 0° | 8° |
| All Dimensions in mm | | |

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

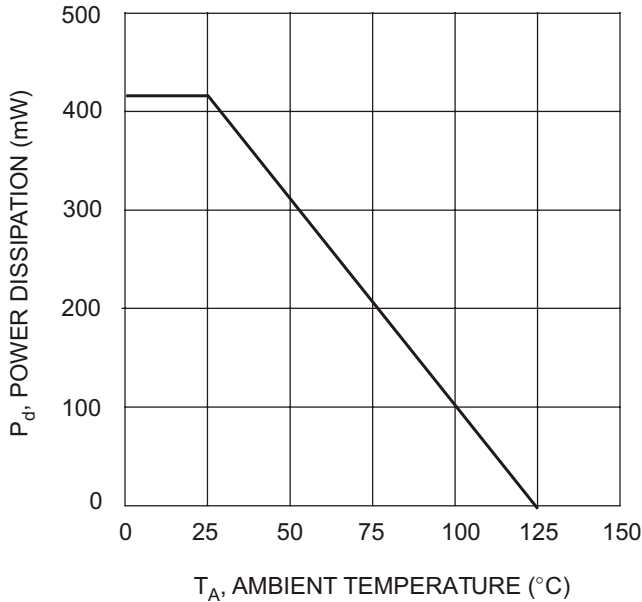
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | B0530W | Unit |
|---|---------------------------------|-------------|---------------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 30 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 21 | V |
| Average Rectified Output Current @ $T_L = 100^\circ\text{C}$ | I_O | 0.5 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 5.5 | A |
| Power Dissipation (Note 1) | P_d | 410 | mW |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 244 | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +125 | $^\circ\text{C}$ |
| Voltage Rate of Change (Note 3) | dv/dt | 1000 | $\text{V}/\mu\text{s}$ |

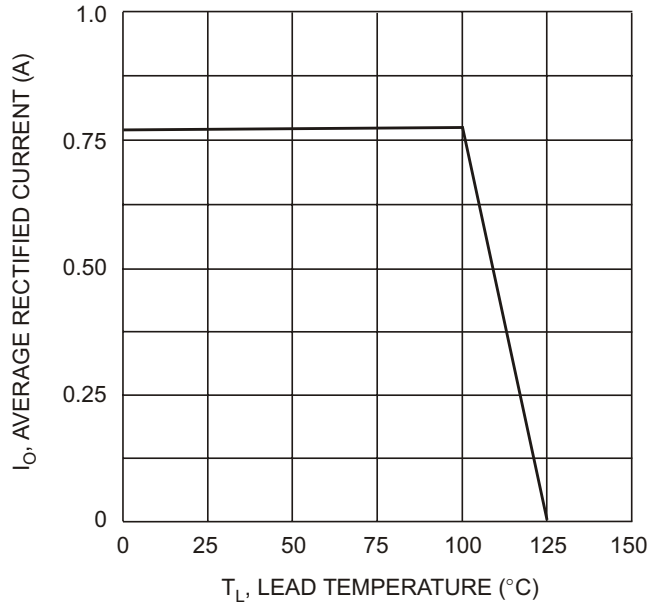
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | B0530W | Unit | Test Conditions |
|--|-------------|----------------|---------------|--|
| Minimum Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | 30 | V | $I_R = 130\mu\text{A}$ |
| Maximum Forward Voltage Drop (Note 2) | V_{FM} | 0.375 0.430 | V | $I_F = 0.1\text{A}, T_j = 25^\circ\text{C}$ $I_F = 0.5\text{A}, T_j = 25^\circ\text{C}$ |
| Maximum Leakage Current (Note 2) | I_{RM} | 20 130 | μA | $V_R = 15\text{V}, T_j = 25^\circ\text{C}$ $V_R = 30\text{V}, T_j = 25^\circ\text{C}$ |
| Total Capacitance | C_T | 170 | pF | $f = 1\text{MHz}, V_R = 0\text{V DC}$ |

- Notes:
1. Device mounted on FR-4 PC board, 2"x2", 2 oz. Copper, single sided, Cathode pad dimensions 0.75"x1.0", Anode pad dimensions 0.25"x1.0".
 2. Pulse Test: Pulse width = 300 μs , Duty Cycle $\leq 2\%$.
 3. dv/dt measured at rated V_R .



T_A , AMBIENT TEMPERATURE (°C)
Fig. 1 Power Derating Curve



T_L , LEAD TEMPERATURE (°C)
Fig. 2 Forward Current Derating Curve

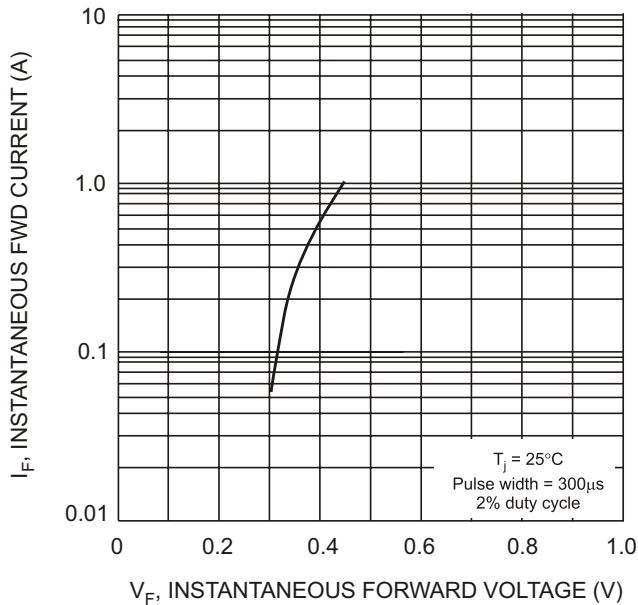


Fig. 3 Typical Forward Characteristics

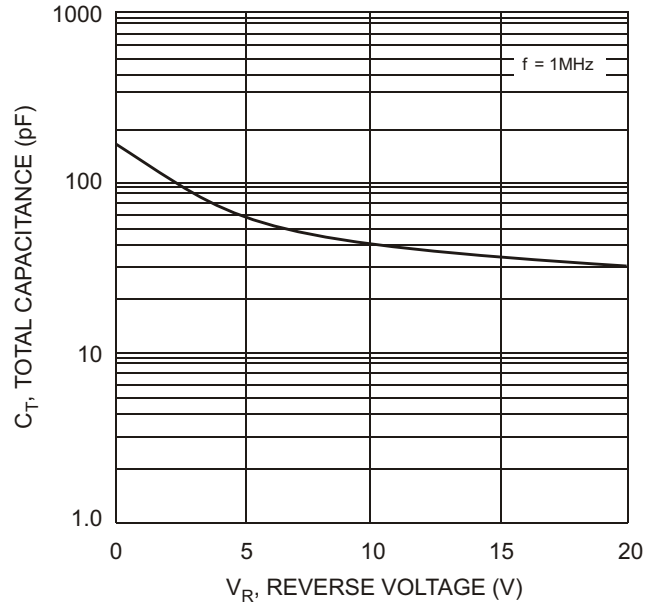


Fig. 4 Typ. Total Capacitance vs Reverse Voltage

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|----------|-----------|------------------|
| B0530W-7 | SOD-123 | 3000/Tape & Reel |

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



XX = Product Type Marking Code (See Sheet 1)
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

| Year | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | J | K | L | M | N | P | R | S | T | U | V |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |