

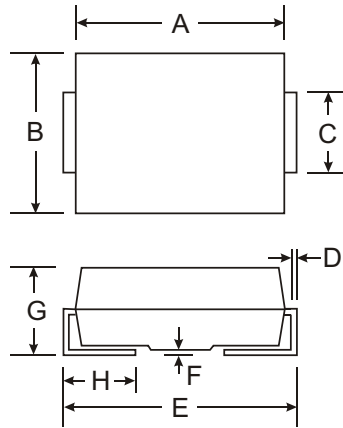
### Features

- 30A Peak Pulse Current @ 10/1000 s
- 150A Peak Pulse Current @ 8/20 s
- 58 - 320V Stand-Off Voltages
- Oxide-Glass Passivated Junction
- Bi-Directional Protection In a Single Device
- High Off-State impedance and Low On-State Voltage

UNDER DEVELOPMENT

### Mechanical Data

- Case: SMB, Molded Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Polarity: None; Bi-Directional Devices Have No Polarity Indicator
- Weight: 0.093 grams (approx.)
- Marking: Date Code and Marking Code (See Page 4)
- Ordering Information: See Page 4



| SMB                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 4.06 | 4.57 |
| B                    | 3.30 | 3.94 |
| C                    | 1.96 | 2.21 |
| D                    | 0.15 | 0.31 |
| E                    | 5.21 | 5.59 |
| F                    | 0.05 | 0.20 |
| G                    | 2.01 | 2.62 |
| H                    | 0.76 | 1.52 |
| All Dimensions in mm |      |      |

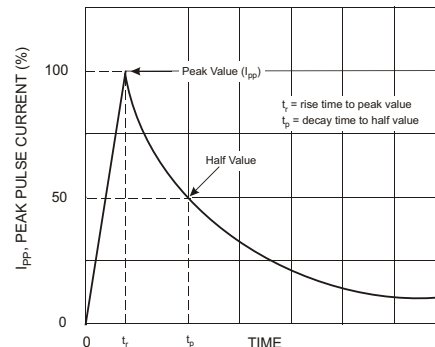
### Maximum Ratings @ T<sub>A</sub> = 25 C unless otherwise specified

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

| Characteristic   | Symbol              | Value       | Unit |
|--|---------------------|-------------|------|
| Non-Repetitive Peak Impulse Current @ 10/1000us                | I <sub>pp</sub>     | 30          | A    |
| Non-Repetitive Peak On-State Current @ 8.3ms (one-half cycle)  | I <sub>TSM</sub>    | 15          | A    |
| Junction Temperature Range                                     | T <sub>j</sub>      | -40 to +150 | C    |
| Storage Temperature Range                                      | T <sub>STG</sub>    | -55 to +150 | C    |
| Thermal Resistance, Junction to Lead                           | R <sub>JL</sub>     | 30          | °C/W |
| Thermal Resistance, Junction to Ambient                        | R <sub>JA</sub>     | 120         | °C/W |
| Typical Positive Temperature Coefficient for Breakdown Voltage | VBR/ T <sub>j</sub> | 0.1         | %/°C |

### Maximum Rated Surge Waveform

| Waveform   | Standard       | I <sub>pp</sub> (A) |
|------------|----------------|---------------------|
| 2/10 us    | GR-1089-CORE   | 200                 |
| 8/20 us    | IEC 61000-4-5  | 150                 |
| 10/160 us  | FCC Part 68    | 100                 |
| 10/700 us  | ITU-T, K20/K21 | 60                  |
| 10/560 us  | FCC Part 68    | 50                  |
| 10/1000 us | GR-1089-CORE   | 30                  |

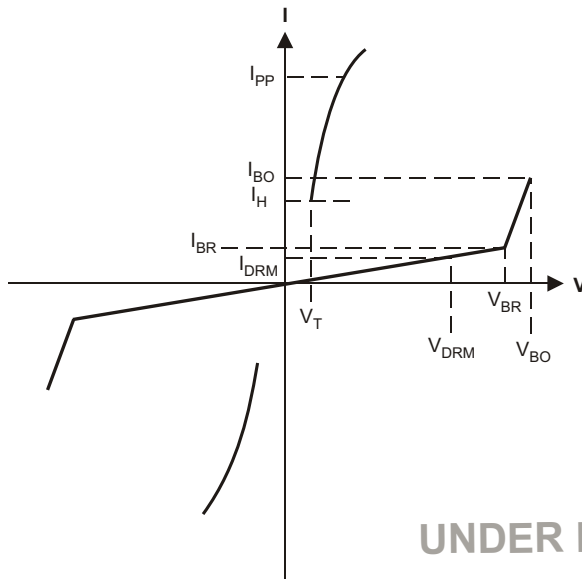


**Electrical Characteristics** @  $T_A = 25\text{ C}$  unless otherwise specified

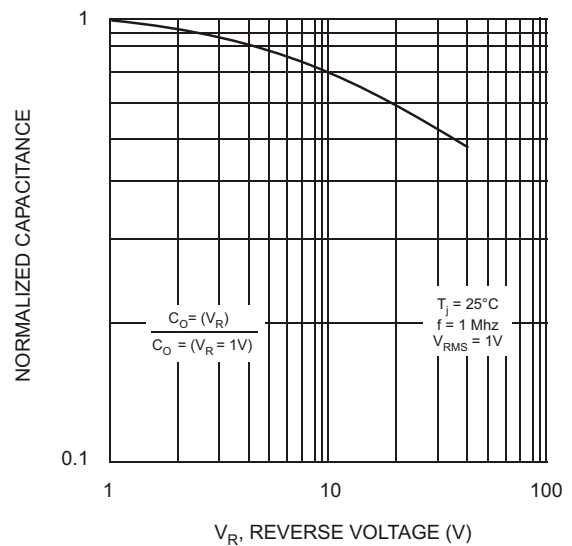
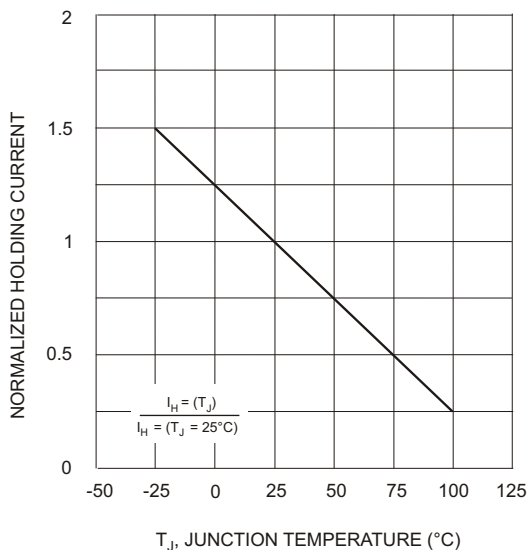
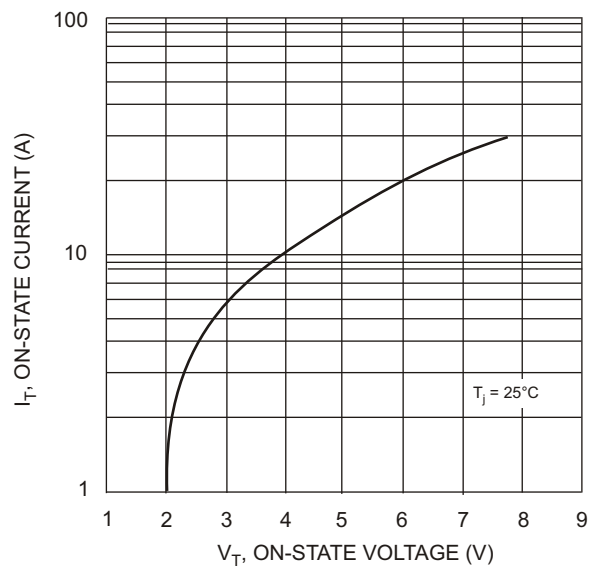
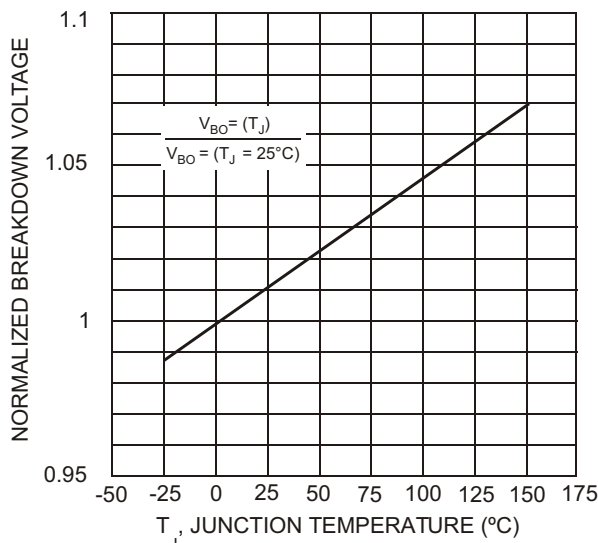
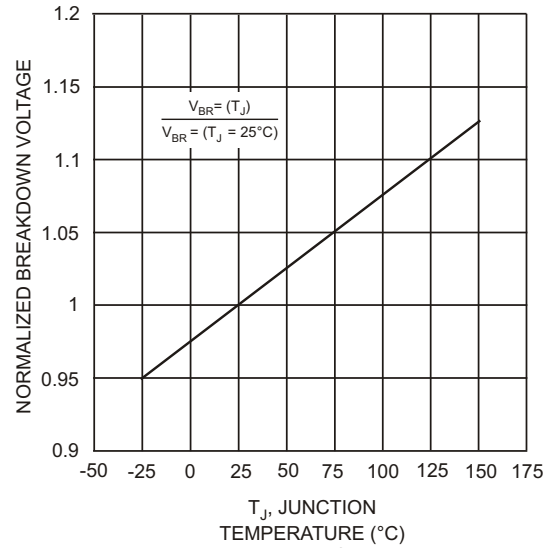
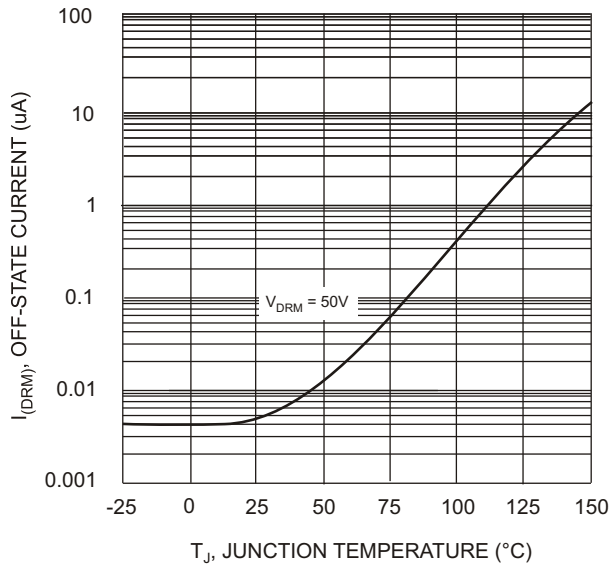
| Part Number | Rated Repetitive Off-State Voltage | Off-State Leakage Current @ $V_{DRM}$ | Breakover Voltage | On-State Voltage @ $I_T = 1\text{ A}$ | Breakover Current $I_{BO}$ |          | Holding Current $I_H$ |          | Off-State Capacitance | Marking Code |
|-------------|------------------------------------|---------------------------------------|-------------------|---------------------------------------|----------------------------|----------|-----------------------|----------|-----------------------|--------------|
|             | $V_{DRM}$ (V)                      | $I_{DRM}$ ( $\mu\text{A}$ )           | $V_{BO}$ (V)      | $V_T$ (V)                             | Min (mA)                   | Max (mA) | Min (mA)              | Max (mA) | $C_O$ (pF)            |              |
| TB0640L     | 58                                 | 5                                     | 77                | 3.5                                   | 50                         | 800      | 150                   | 800      | 100                   | T064L        |
| TB0720L     | 65                                 | 5                                     | 88                | 3.5                                   | 50                         | 800      | 150                   | 800      | 100                   | T072L        |
| TB0900L     | 75                                 | 5                                     | 98                | 3.5                                   | 50                         | 800      | 150                   | 800      | 100                   | T090L        |
| TB1100L     | 90                                 | 5                                     | 130               | 3.5                                   | 50                         | 800      | 150                   | 800      | 60                    | T110L        |
| TB1300L     | 120                                | 5                                     | 160               | 3.5                                   | 50                         | 800      | 150                   | 800      | 60                    | T130L        |
| TB1500L     | 140                                | 5                                     | 180               | 3.5                                   | 50                         | 800      | 150                   | 800      | 60                    | T150L        |
| TB1800L     | 160                                | 5                                     | 220               | 3.5                                   | 50                         | 800      | 150                   | 800      | 60                    | T180L        |
| TB2300L     | 190                                | 5                                     | 265               | 3.5                                   | 50                         | 800      | 150                   | 800      | 40                    | T230L        |
| TB2600L     | 220                                | 5                                     | 300               | 3.5                                   | 50                         | 800      | 150                   | 800      | 40                    | T260L        |
| TB3100L     | 275                                | 5                                     | 350               | 3.5                                   | 50                         | 800      | 150                   | 800      | 40                    | T310L        |
| TB3500L     | 320                                | 5                                     | 400               | 3.5                                   | 50                         | 800      | 150                   | 800      | 40                    | T350L        |

| Symbol    | Parameter  |
|-----------|--|
| $V_{DRM}$ | Stand-off Voltage  |
| $I_{DRM}$ | Leakage current at stand-off voltage                             |
| $V_{BR}$  | Breakdown voltage  |
| $I_{BR}$  | Breakdown current  |
| $V_{BO}$  | Breakover voltage  |
| $I_{BO}$  | Breakover current  |
| $I_H$     | Holding current <span style="float: right;">NOTE: 1</span>       |
| $V_T$     | On state voltage   |
| $I_{PP}$  | Peak pulse current   |
| $C_O$     | Off-state capacitance <span style="float: right;">NOTE: 2</span> |

- Notes:
- $I_H > (V_L/R_L)$  If this criterion is not obeyed, the TSPD triggers but does not return correctly to high-resistance state. The surge recovery time does not exceed 30ms.
  - Off-state capacitance measured at  $f = 1.0\text{MHz}$ ,  $1.0V_{RMS}$  signal,  $V_R = 2V_{DC}$  bias.



UNDER DEVELOPMENT

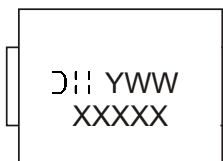


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**Ordering Information** (Note 3)

| Device   | Packaging | Shipping         |
|--|-----------|------------------|
| TB0640L-13<br>TB0720L-13<br>TB0900L-13<br>TB1100L-13<br>TB1300L-13<br>TB1500L-13<br>TB1800L-13<br>TB2300L-13<br>TB2600L-13<br>TB3100L-13<br>TB3500L-13 | SMB       | 3000/Tape & Reel |

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**

XXXXX = Product Type Marking Code  
 YWW = Date Code Marking  
 Y = Year ex: 2 = 2002  
 WW = Week

## Date Code Key

| Year | 2002 | 2003 | 2004 |
|------|------|------|------|
| Code | 2    | 3    | 4    |

**UNDER DEVELOPMENT**

单击下面可查看定价，库存，交付和生命周期等信息

[>>Diodes Incorporated\(达达科技\(美台\)\)](#)