

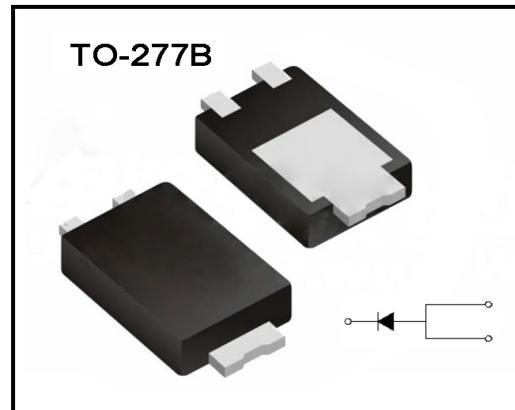
# NSB1045L

Schottky Barrier Diode

## Features

- Excellent high temperature stability
- Low forward voltage
- Low power loss/ high efficiency
- High forward surge capability
- Ideal for automated placement
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

## Package



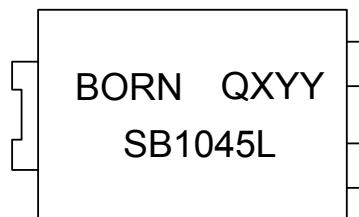
## Applications

The Schottky barrier rectifier is designed for high frequency miniature switched mode power supplies such as adapters, lighting and on-board DC/DC converters.

## Mechanical Data

- Case: TO-277B
- Polarity: Indicated by cathode band
- Moisture sensitivity level: level 1, per J-STD-020
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per JESD22-B102 Meet JESD 201 class 2 whisker test
- Weight: 0.095g (approximately)

## Marking



## Ordering information

| Order code | Package | Base qty | Delivery mode |
|------------|---------|----------|---------------|
| NSB1045L   | TO-277B | 5K       | Tape and Reel |



# NSB1045L

Schottky Barrier Diode

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

| Symbol          | Parameter   | Value       | Unit |
|-----------------|---|-------------|------|
| $V_{RRM}$       | Maximum Repetitive Peak Reverse Voltage   | 45          | V    |
| $I_{F(AV)}$     | Maximum Average Forward Rectified Current   | 10          | A    |
| $I_{FSM}$       | Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode | 150         | A    |
| $V_F$           | Maximum instantaneous forward voltage per diode (Note1) @ $I_F=10\text{A}$                  | 0.51        | V    |
| $I_R$           | Maximum instantaneous reverse current per diode at rated reverse voltage                    | 200         | uA   |
| $R_{\theta JL}$ | Typical thermal resistance  | 11          | °C/W |
| $T_J, T_{STG}$  | Operating Junction and Storage Temperature Range  | -55 to +150 | °C   |

Note 1: Pulse Test with Pulse Width=300μs, 1% Duty Cycle.



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Typical Performance Characteristics ( $T_A = 25^\circ\text{C}$ , unless otherwise noted)

Figure 1: Forward Current Derating Curve

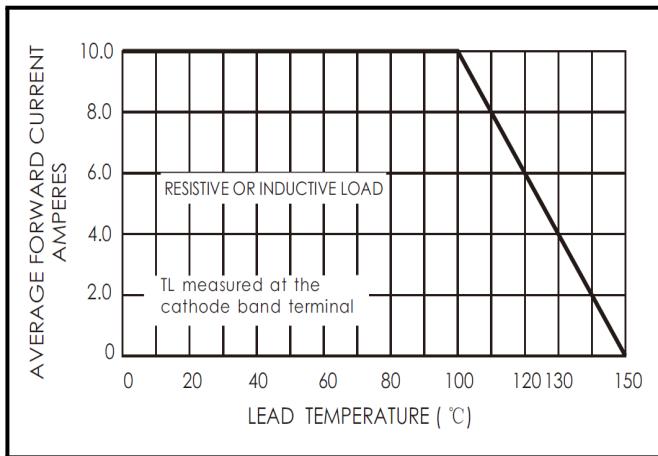


Figure 2: Typical Forward Characteristics

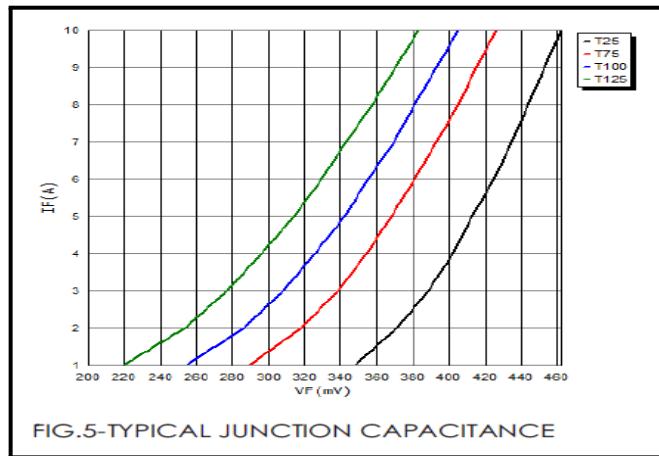


Figure 3: Max. Non-Repetitive Forward Surge Current

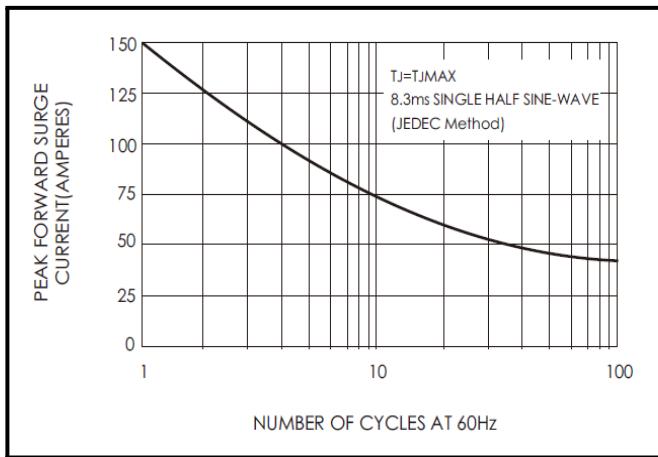


Figure 4: Typical Reverse Characteristics

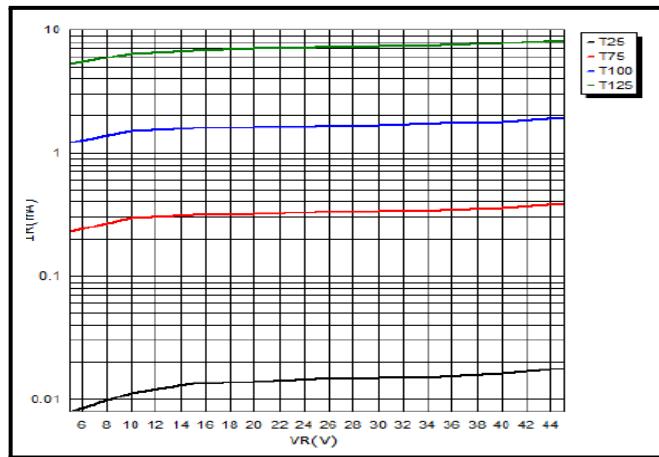
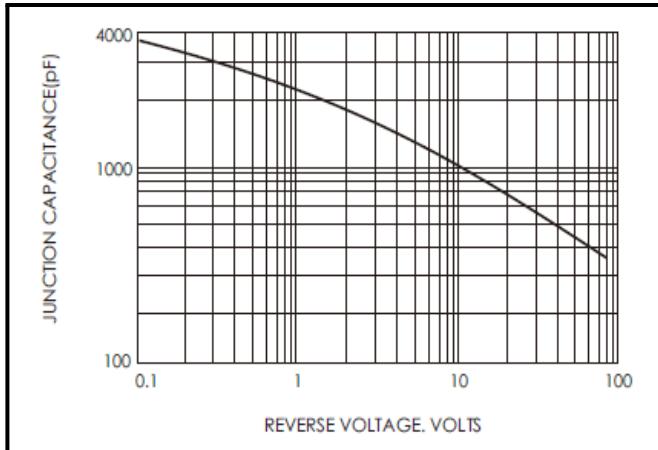


Figure 5: Typical Junction Capacitance



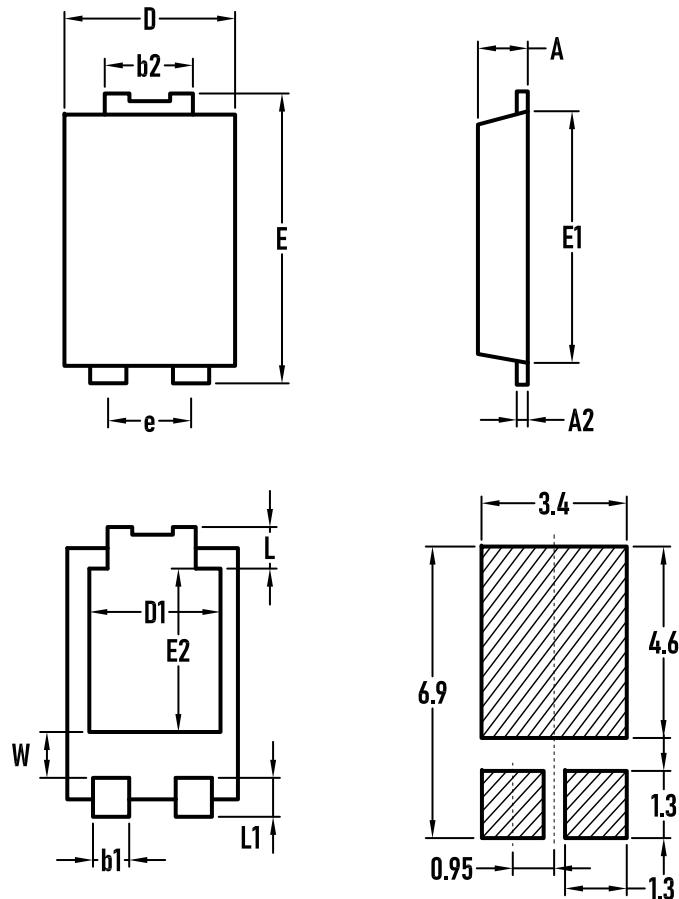
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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information. Revision: 2022-Jan-1-A



Outline Drawing - TO-277B



| SYMBOL | MILLIMETER |      |
|--------|------------|------|
|        | MIN.       | MAX. |
| A      | 1.05       | 1.2  |
| A2     | 0.25       | 0.4  |
| b1     | 0.8        | 1.0  |
| b2     | 1.7        | 1.9  |
| D      | 4.1        | 4.3  |
| D1     | 3.0        | 3.3  |
| E      | 6.4        | 6.6  |
| e      | 1.86       |      |
| E1     | 5.6        | 5.8  |
| E2     | 3.52       |      |
| L      | 0.68       | 0.88 |
| L1     | 0.85       | 1.1  |
| W      | 1.1        | 1.4  |

