



# SB1A40CH

## SCHOTTKY BARRIER RECTIFIER

**Voltage**

**40 V**

**Current**

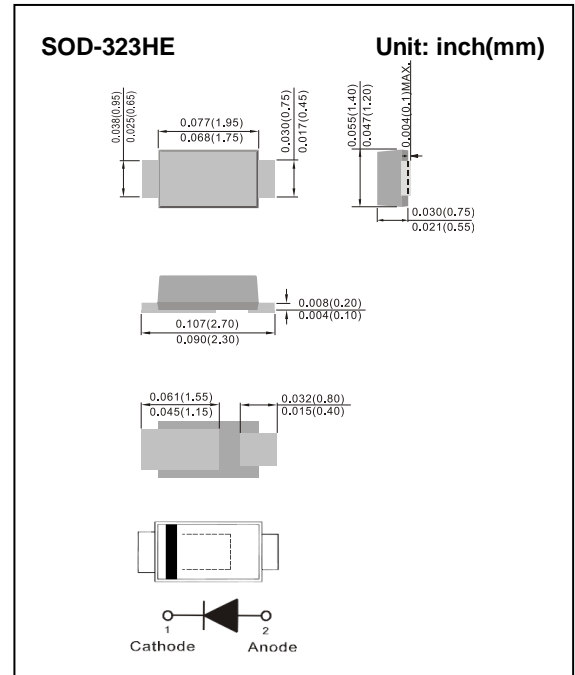
**1.5 A**

### Features

- Low forward voltage drop, low reverse current
- High Efficiency
- Low thermal resistance
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### Mechanical Data

- Case: SOD-323HE Molded Plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Weight: 0.0002 ounces, 0.005 grams



### Maximum Ratings And Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER   | SYMBOL                   | LIMIT       | UNIT                 |
|---|--------------------------|-------------|----------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$                | 40          | V                    |
| Maximum rms voltage   | $V_{RMS}$                | 28          | V                    |
| Maximum dc blocking voltage   | $V_R$                    | 40          | V                    |
| Maximum average forward rectified current   | $I_{F(AV)}$              | 1.5         | A                    |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$                | 22          | A                    |
| Typical thermal resistance  | (Note 2) $R_{\theta JC}$ | 35          | $^{\circ}\text{C/W}$ |
|   | (Note 2) $R_{\theta JL}$ | 30          |                      |
|   | (Note 1) $R_{\theta JA}$ | 300         |                      |
| Operating junction temperature range  | $T_J$                    | -55 to +150 | $^{\circ}\text{C}$   |
| Storage temperature range   | $T_{STG}$                | -55 to +150 | $^{\circ}\text{C}$   |

Note : 1. Mounted on a FR4 PCB, single-sided copper, mini pad.

2. Mounted on a FR4 PCB, single-sided copper, with  $100\text{cm}^2$  copper pad area



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

| PARAMETER                     | SYMBOL   | TEST CONDITION     |                           | MIN. | TYP. | MAX. | UNITS         |
|-------------------------------|----------|--------------------|---------------------------|------|------|------|---------------|
| Breakdown voltage             | $V_{BR}$ | $I_R=0.5\text{mA}$ | $T_J=25^{\circ}\text{C}$  | 40   | -    | -    | V             |
| Instantaneous forward voltage | $V_F$    | $I_F=0.7\text{A}$  | $T_J=25^{\circ}\text{C}$  | -    | 0.49 | -    | V             |
|                               |          | $I_F=1.5\text{A}$  |                           | -    | 0.56 | 0.62 |               |
|                               |          | $I_F=0.7\text{A}$  | $T_J=125^{\circ}\text{C}$ | -    | 0.40 | -    | V             |
|                               |          | $I_F=1.5\text{A}$  |                           | -    | 0.51 | -    |               |
| Reverse current               | $I_R$    | $V_R=32\text{V}$   | $T_J=25^{\circ}\text{C}$  | -    | 0.8  | -    | $\mu\text{A}$ |
|                               |          | $V_R=40\text{V}$   | $T_J=25^{\circ}\text{C}$  | -    | -    | 50   | $\mu\text{A}$ |
|                               |          |                    | $T_J=125^{\circ}\text{C}$ | -    | 0.8  | -    | $\text{mA}$   |



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## TYPICAL CHARACTERISTIC CURVES

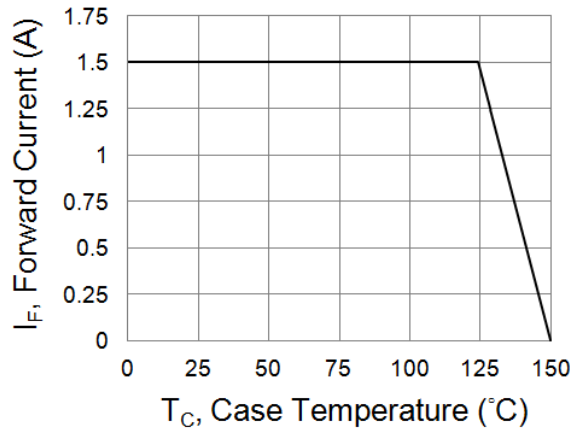


Fig.1 Forward Current Derating Curve

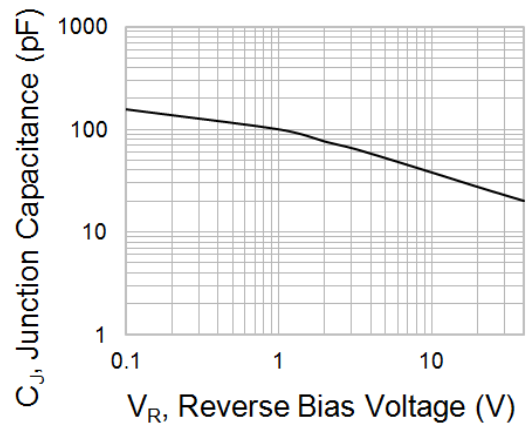


Fig.2 Typical Junction Capacitance

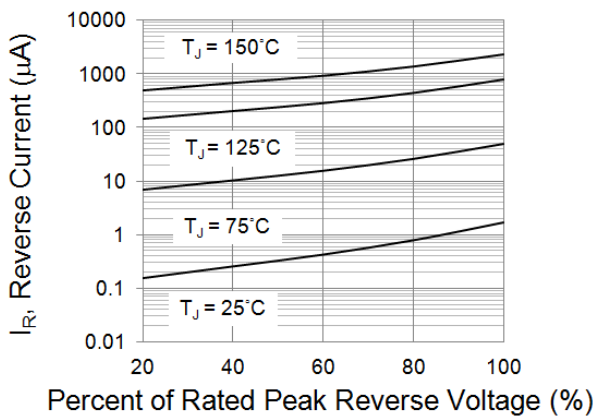


Fig.3 Typical Reverse Characteristics

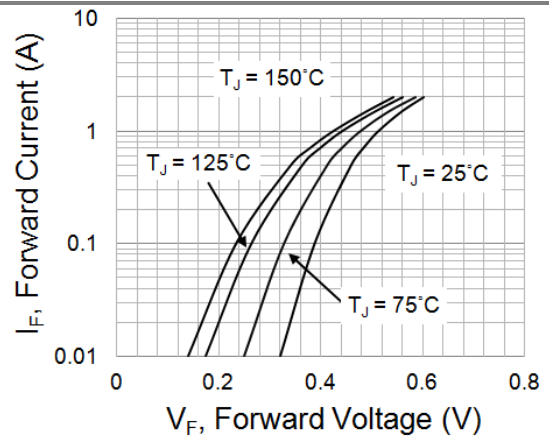


Fig.4 Typical Forward Characteristics

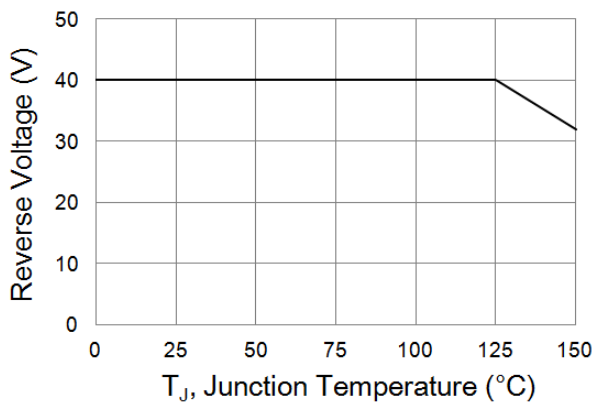


Fig.5 Operating Temperature Derating Curve



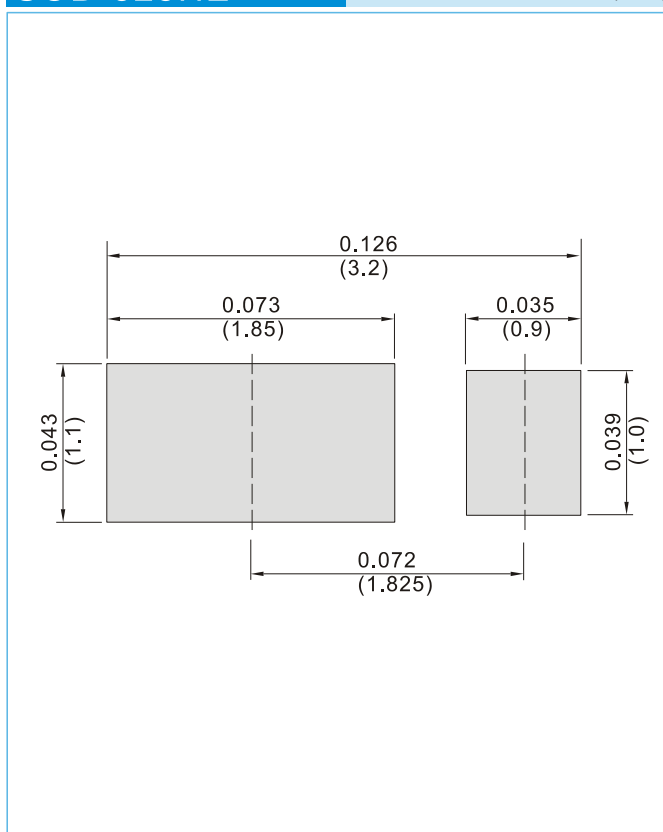
# SB1A40CH

## Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type       | Marking | Version      |
|----------------------|--------------|--------------------|---------|--------------|
| SB1A40CH_R1_00001    | SOD-323HE    | 5K pcs / 7" reel   | 4HE     | Halogen free |
| SB1A40CH_R2_00001    | SOD-323HE    | 12K pcs / 13" reel | 4HE     | Halogen free |

## Mounting Pad Layout

**SOD-323HE** Unit : inch(mm)





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