

SBR1045 thru SBR10200

Schottky Barrier Rectifiers

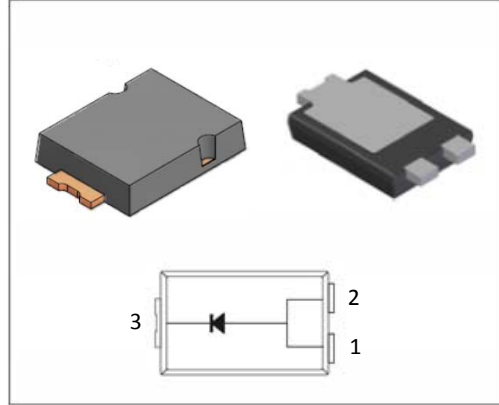
Reverse Voltage 45 to 100V Forward Current 10A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * Low power loss, high efficiency
- * For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- * Guardring for over voltage protection
- * High temperature soldering guaranteed: 260°C/10 seconds at terminals

Mechanical Data

Case: JEDEC TO-277A,
molded plastic over SKY body
Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
Mounting Position: Any
Weight: 0.108 g
Handling precaution: None



We declare that the material of product is Halogen free (green epoxy compound)

1. Electrical Characteristic

Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol | symbol | SBR1045 | SBR1060 | SBR10100 | SBR10150 | SBR10200 | Unit |
|--|-----------------|-------------|---------|----------|----------|----------|------|
| device marking code | | SBR1045 | SBR1060 | SBR10100 | SBR10150 | SBR10200 | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 45 | 60 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 31.5 | 42 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 45 | 60 | 100 | 150 | 200 | V |
| Maximum average forward rectified current at $T_c = 75^\circ\text{C}$ | $I_{F(AV)}$ | 10.0 | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 300 | | | | | A |
| Typical thermal resistance (Note 1) | $R_{\theta JC}$ | 8 | | | | | °C/W |
| | $R_{\theta JL}$ | 15 | | | | | |
| | $R_{\theta JA}$ | 31 | | | | | |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ | 60 | | | | | °C/W |
| Operating junction temperature range | T_J | -55 to +150 | | | | | °C |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | °C |

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol | symbol | SBR1045 | SBR1060 | SBR10100 | SBR10150 | SBR10200 | Unit |
|---|--------|---------|---------|----------|----------|----------|------|
| Maximum instantaneous forward voltage at 25°C at 5A at 10A | V_F | - | - | 0.82 | | | V |
| | | 0.55 | 0.70 | 0.88 | | | |
| Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_j = 100^\circ\text{C}$ | IR | 0.3 | | | | | mA |
| | | 15.0 | | | | | |
| Typical junction capacitance at 4.0V, 1MHz | CJ | 500 | | | | | PF |

NOTES:

1. Polyimide PCB, 2oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 14.4mm.
2. FR-4 PCB, 2oz. Copper.

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2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

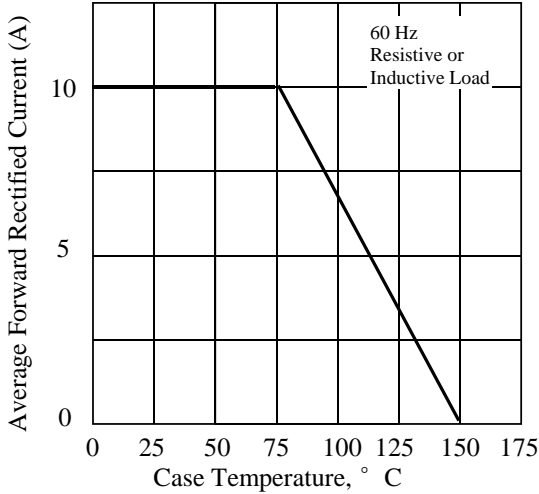


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

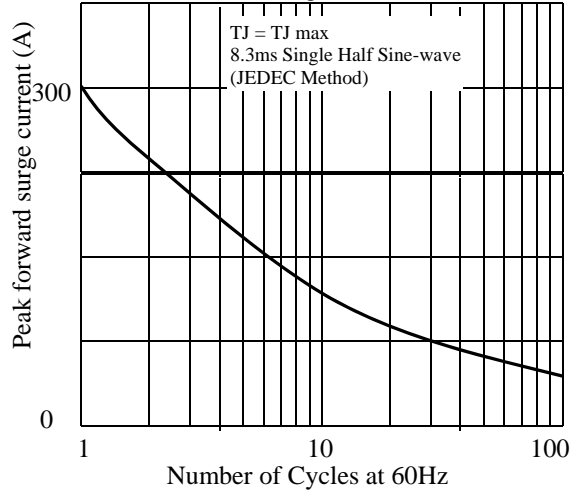


Fig. 3 - Typical Instantaneous Forward Characteristics

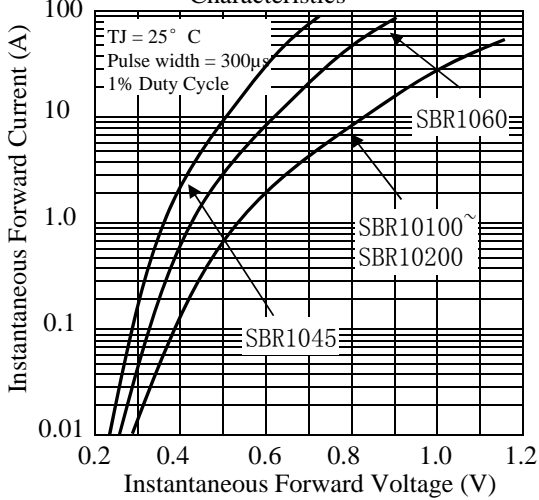


Fig. 4 - Typical Reverse Characteristics

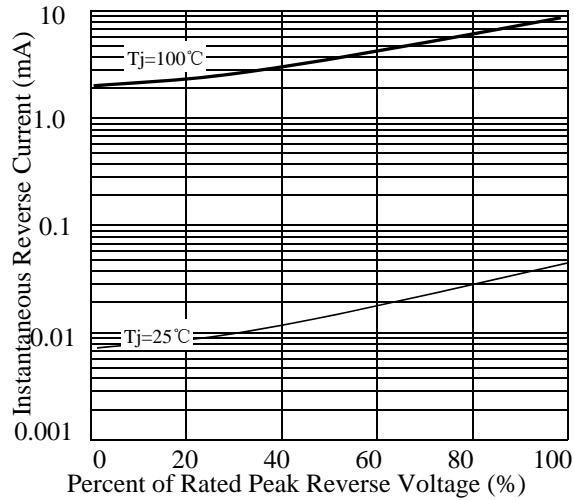


Fig. 5 - typical transient thermal impedance (Note 2)

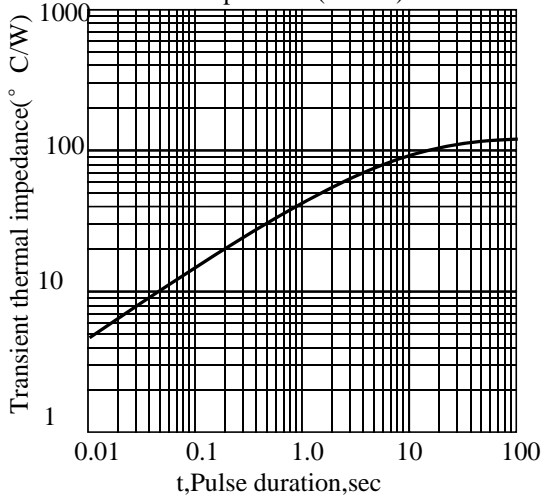
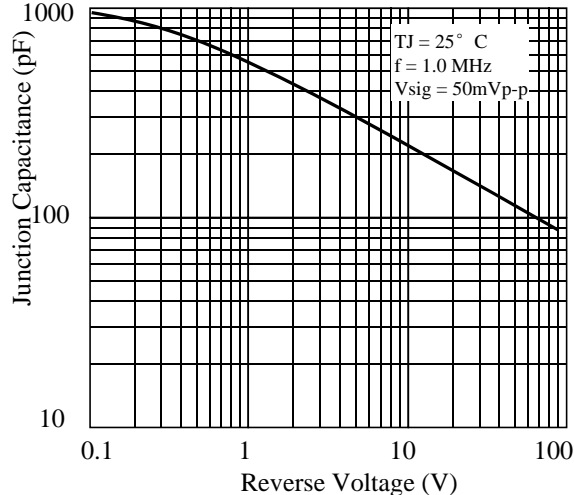


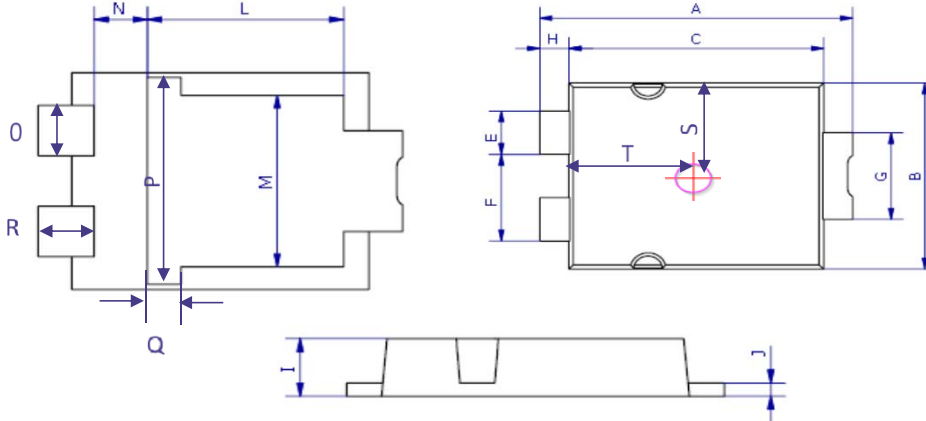
Fig. 6 - Typical Junction Capacitance



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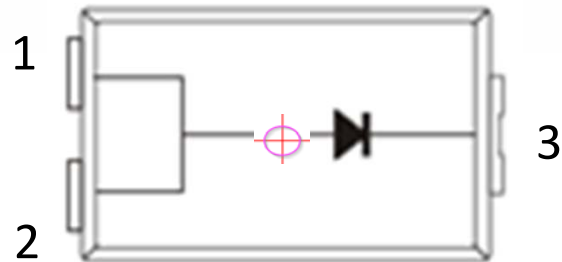
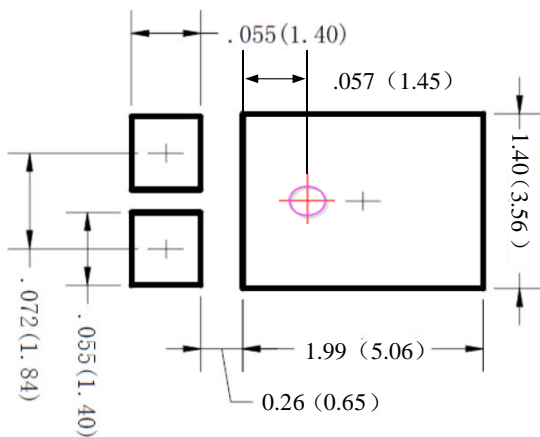
3. dimension:

TO-277A



| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 6.3 | 6.7 | 0.248 | 0.264 |
| B | 4.1 | 4.5 | 0.161 | 0.177 |
| C | 5.1 | 5.5 | 0.201 | 0.217 |
| E | 0.9 | 1.1 | 0.035 | 0.043 |
| F | 1.9 | 2.1 | 0.075 | 0.083 |
| G | 1.9 | 2.1 | 0.075 | 0.083 |
| H | 0.50 | 0.70 | 0.020 | 0.028 |
| I | 1.00 | 1.20 | 0.039 | 0.047 |
| J | 0.15 | 0.35 | 0.006 | 0.014 |
| L | 3.30 | 3.70 | 0.130 | 0.146 |
| M | 3.20 | 3.60 | 0.126 | 0.142 |
| N | 0.80 | 1.10 | 0.033 | 0.043 |
| O | 0.90 | 1.10 | 0.035 | 0.043 |
| P | 3.90 | 4.30 | 0.154 | 0.169 |
| Q | 0.50 | 0.80 | 0.020 | 0.031 |
| R | 0.85 | 1.15 | 0.033 | 0.045 |
| S | 2.00 | 2.30 | 0.079 | 0.091 |
| T | 2.50 | 2.80 | 0.098 | 0.110 |

Mounting PAD layout



- 1: Anode
- 2: Anode
- 3: Cathode

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4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|----|-----------------------------|------|------------|
| 1 | 第一版 | 周杰 | 2013-8-7 |
| 2 | 更新产品尺寸为T0-277A | 周杰 | 2014-1-17 |
| 3 | 标注外形尺寸公差 | 周杰 | 2014-6-9 |
| 4 | 增加SBR1060 SBR10100 SBR10200 | 周杰 | 2014-7-31 |
| 5 | 修正管体L标注尺寸 | 周杰 | 2014-9-26 |
| 6 | 增加SBR10150 | 周杰 | 2015-9-28 |
| 7 | 增加PIN标示说明 | 谭志伟 | 2016-10-8 |
| 8 | 增加包装说明 | 谭志伟 | 2016-10-13 |
| 9 | 增加尺寸标注 | 谭志伟 | 2017-7-26 |

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