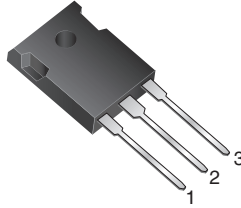
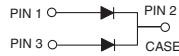


## Dual Common-Cathode Schottky Rectifier


**TO-247AD (TO-3P)**


| PRIMARY CHARACTERISTICS |            |
|-------------------------|------------|
| $I_{F(AV)}$             | 20 A       |
| $V_{RRM}$               | 30 V, 40 V |
| $I_{FSM}$               | 250 A      |
| $V_F$                   | 0.60 V     |
| $T_J \text{ max.}$      | 125 °C     |

### FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.

### MECHANICAL DATA

**Case:** TO-247AD (TO-3P)

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** As marked

**Mounting Torque:** 10 in-lbs maximum

| MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)                                |                |               |           |      |
|-----------------------------------------------------------------------------------------------|----------------|---------------|-----------|------|
| PARAMETER                                                                                     | SYMBOL         | SBL2030PT     | SBL2040PT | UNIT |
| Maximum repetitive peak reverse voltage                                                       | $V_{RRM}$      | 30            | 40        | V    |
| Maximum RMS voltage                                                                           | $V_{RWM}$      | 21            | 28        | V    |
| Maximum DC blocking voltage                                                                   | $V_{DC}$       | 30            | 40        | V    |
| Maximum average forward rectified current (Fig. 1)                                            | $I_{F(AV)}$    | 20            |           | A    |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode | $I_{FSM}$      | 250           |           | A    |
| Operating junction and storage temperature range                                              | $T_J, T_{STG}$ | - 40 to + 125 |           | °C   |

| ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ °C}$ unless otherwise noted)                   |                       |        |           |           |      |
|---------------------------------------------------------------------------------------------|-----------------------|--------|-----------|-----------|------|
| PARAMETER                                                                                   | TEST CONDITIONS       | SYMBOL | SBL2030PT | SBL2040PT | UNIT |
| Maximum instantaneous forward voltage per diode <sup>(1)</sup>                              | 10 A                  | $V_F$  | 0.6       |           | V    |
| Maximum instantaneous reverse current at rated DC blocking voltage per diode <sup>(1)</sup> | $T_C = 25\text{ °C}$  | $I_R$  | 1.0       |           | mA   |
|                                                                                             | $T_C = 100\text{ °C}$ |        | 50        |           |      |

**Note:**

(1) Pulse test: 300  $\mu$ s pulse width, 1 % duty cycle

| THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                 |           |           |                    |
|------------------------------------------------------------------------------------|-----------------|-----------|-----------|--------------------|
| PARAMETER                                                                          | SYMBOL          | SBL2030PT | SBL2040PT | UNIT               |
| Thermal resistance from junction to case per diode                                 | $R_{\theta JC}$ | 1.5       |           | $^\circ\text{C/W}$ |

| ORDERING INFORMATION (Example) |                 |                 |              |               |               |
|--------------------------------|-----------------|-----------------|--------------|---------------|---------------|
| PACKAGE                        | PREFERRED P/N   | UNIT WEIGHT (g) | PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| TO-247AD                       | SBL2030PT-E3/45 | 6.13            | 45           | 30/tube       | Tube          |

## RATINGS AND CHARACTERISTICS CURVES

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

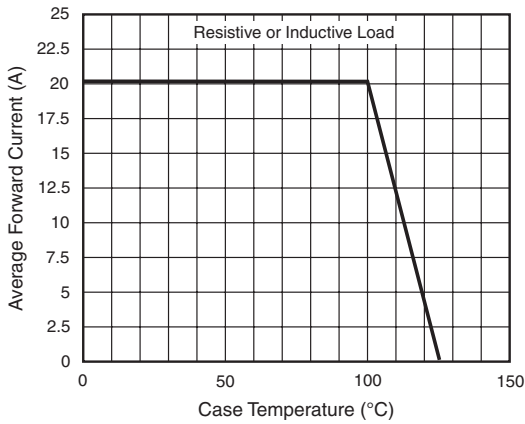


Figure 1. Forward Current Derating Curve

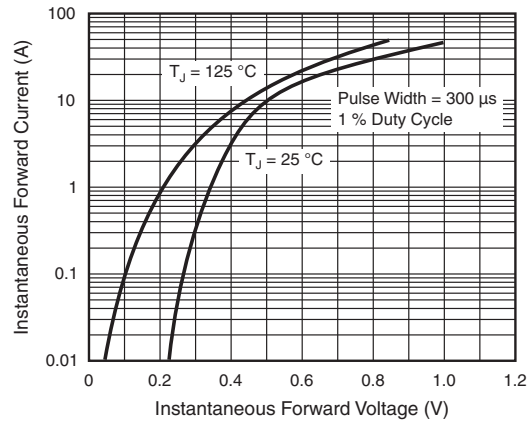


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

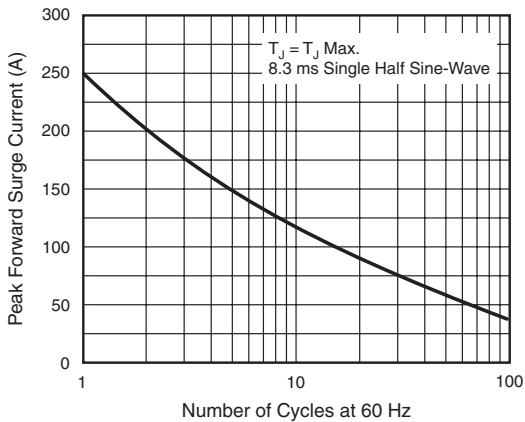


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

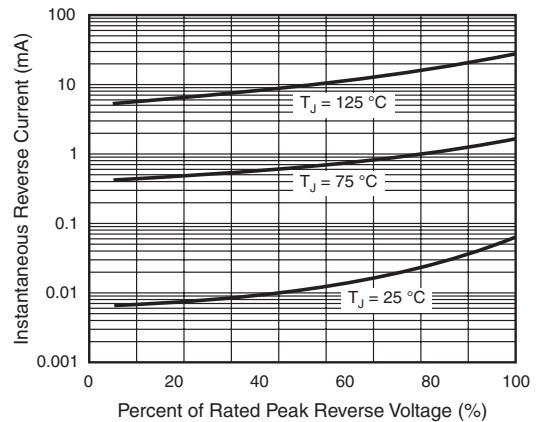


Figure 4. Typical Reverse Characteristics Per Diode

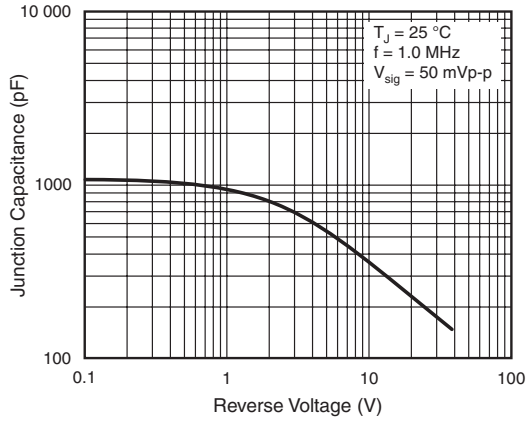


Figure 5. Typical Junction Capacitance Per Diode

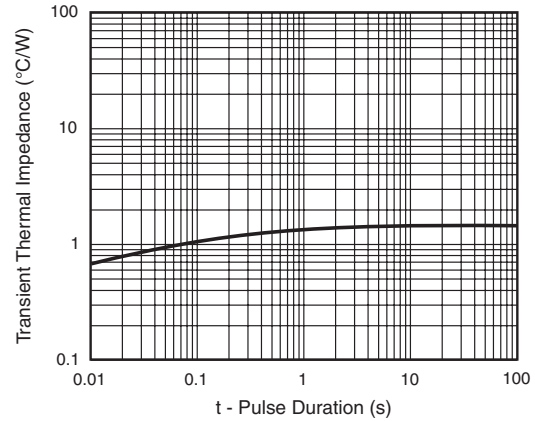
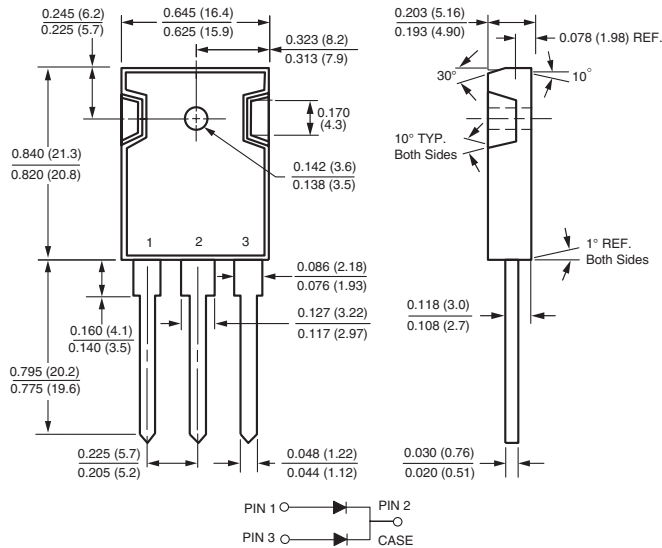


Figure 6. Typical Transient Thermal Impedance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### TO-247AD (TO-3P)





## Disclaimer

All product specifications and data are subject to change without notice.

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