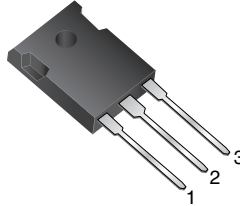
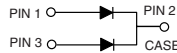


Dual Common Cathode Schottky Rectifier


TO-247AD (TO-3P)


FEATURES

- Power pack
- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max., 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

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

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

| PRIMARY CHARACTERISTICS | |
|-------------------------|------------------|
| $I_{F(AV)}$ | 20 A |
| V_{RRM} | 30 V, 40 V |
| I_{FSM} | 250 A |
| V_F | 0.55 V |
| $T_J \text{ max.}$ | 125 °C |
| Package | TO-247AD (TO-3P) |
| Diode variations | Common cathode |

| 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 | SYMBOL | TEST CONDITIONS | SBL2030PT | SBL2040PT | UNIT |
| Maximum instantaneous forward voltage per diode | $V_F^{(1)}$ | 10 A | 0.55 | | V |
| Maximum instantaneous reverse current at rated DC blocking voltage per diode | $I_R^{(1)}$ | $T_C = 25\text{ °C}$ | 1.0 | | mA |
| | | $T_C = 100\text{ °C}$ | 50 | | mA |

Note

⁽¹⁾ Pulse test: 300 μ 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, 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)

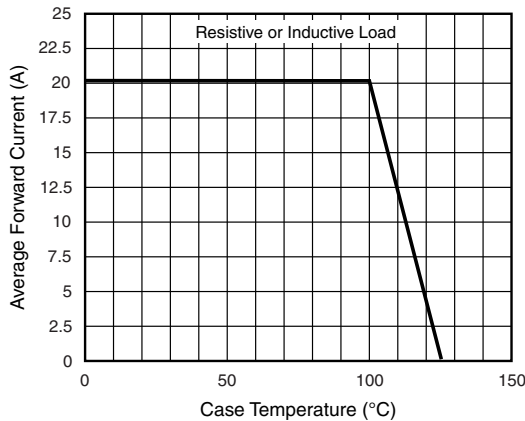


Fig. 1 - Forward Current Derating Curve

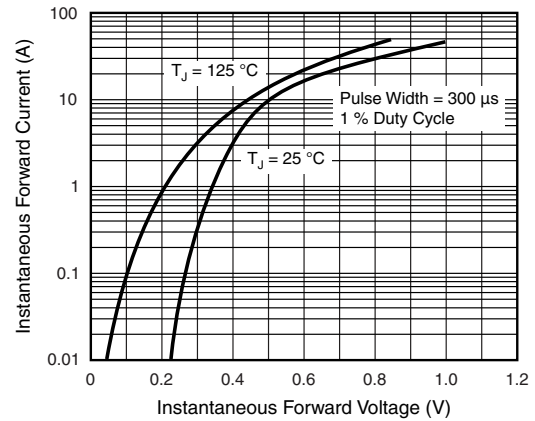


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

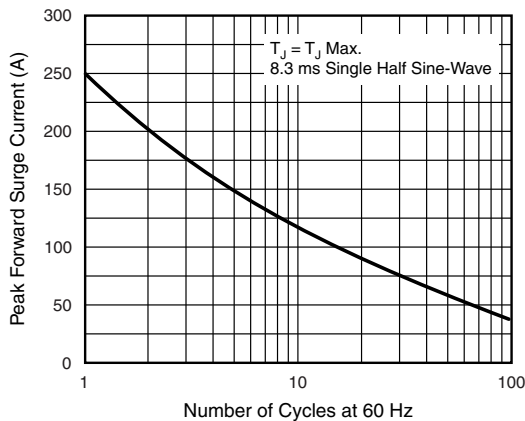


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

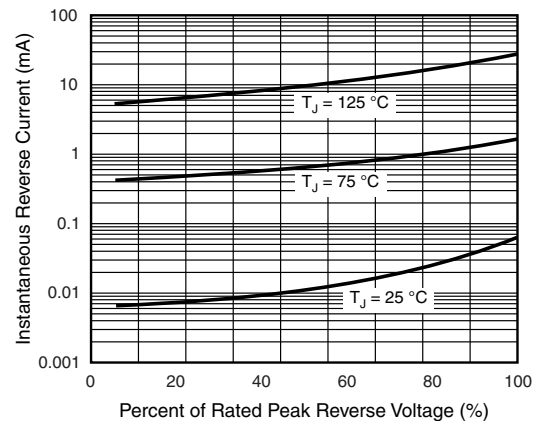


Fig. 4 - Typical Reverse Characteristics Per Diode

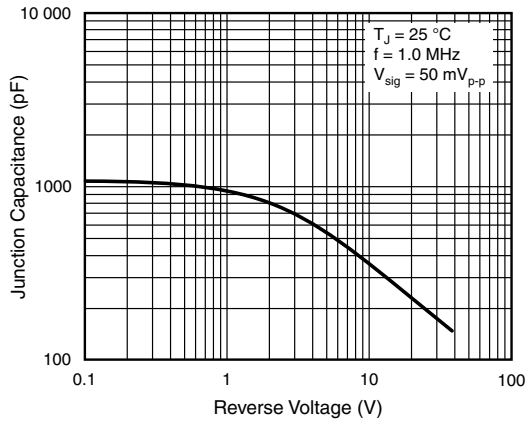


Fig. 5 - Typical Junction Capacitance Per Diode

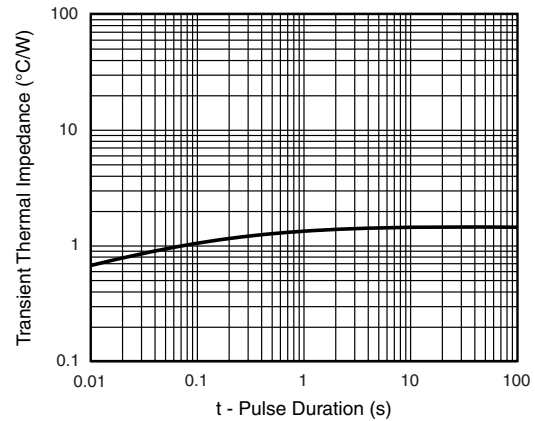
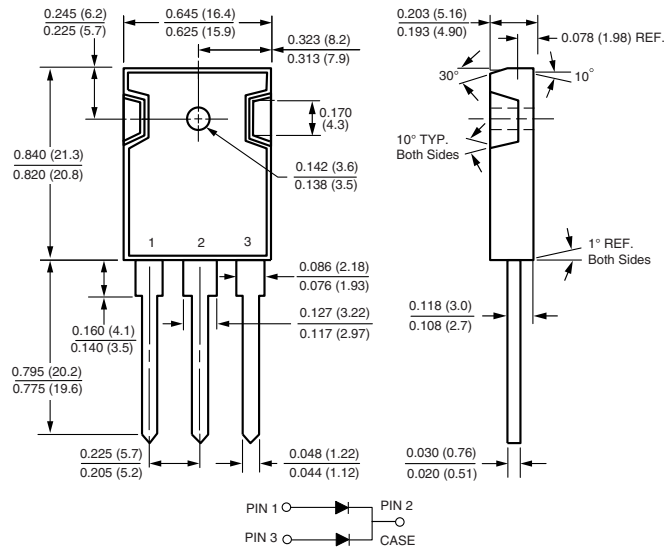


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-247AD (TO-3P)





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