

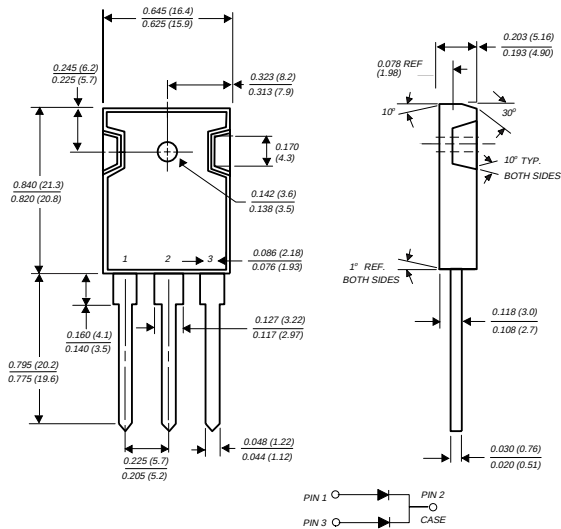
# SBL4030PT THRU SBL4040PT

## SCHOTTKY RECTIFIER

*Reverse Voltage - 30 to 40 Volts*

*Forward Current - 40.0 Amperes*

### TO-247AD



### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ◆ Dual rectifier construction, positive center-tap
- ◆ Metal silicon rectifier, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ Guardring for overvoltage protection
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.17" (4.3mm) from case



### MECHANICAL DATA

**Case:** JEDEC TO-247AD molded plastic body

**Terminals:** Lead solderable per MIL-STD-750, Method 2026

**Polarity:** As marked

**Mounting Position:** Any

**Mounting Torque:** 10 in. - lbs. max.

**Weight:** 0.2 ounce, 5.6 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|                                                                                                                                                      | SYMBOLS         | SBL4030PT     | SBL4040PT | UNITS                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|-----------|------------------------|
| Maximum repetitive peak reverse voltage                                                                                                              | $V_{RRM}$       | 30            | 40        | Volts                  |
| Maximum working peak reverse voltage                                                                                                                 | $V_{RMS}$       | 21            | 28        | Volts                  |
| Maximum DC blocking voltage                                                                                                                          | $V_{DC}$        | 30            | 40        | Volts                  |
| Maximum average forward rectified current at $T_C=100^\circ\text{C}$                                                                                 | $I_{(AV)}$      | 40.0          |           | Amps                   |
| Peak repetitive forward current per leg at $T_C=95^\circ\text{C}$ (rated $V_R$ square wave, 20 KHz)                                                  | $I_{FRM}$       | 40.0          |           | Amps                   |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)                                                    | $I_{FSM}$       | 400.0         |           | Amps                   |
| Peak repetitive reverse surge current (NOTE 1)                                                                                                       | $I_{RRM}$       | 2.0           |           | Amps                   |
| Maximum instantaneous forward voltage per leg at<br>$I_F=20\text{A}$ , $T_C=25^\circ\text{C}$<br>(NOTE 2) $I_F=20\text{A}$ , $T_C=100^\circ\text{C}$ | $V_F$           | 0.58<br>0.50  |           | Volts                  |
| Maximum instantaneous reverse current at $T_C=25^\circ\text{C}$<br>rated DC blocking voltage per leg (NOTE 2) $T_C=100^\circ\text{C}$                | $I_R$           | 10.0<br>100.0 |           | mA                     |
| Typical thermal resistance per leg (NOTE 3)                                                                                                          | $R_{\theta JC}$ | 1.2           |           | $^\circ\text{C/W}$     |
| Voltage rate of change (rated $V_R$ )                                                                                                                | $dv/dt$         | 1,000         |           | $\text{V}/\mu\text{s}$ |
| Operating junction storage temperature range                                                                                                         | $T_{JTSTG}$     | -40 to +125   |           | $^\circ\text{C}$       |

#### NOTES:

(1) 2.0μs pulse width, f=1.0 KHz

(2) Pulse test: 300μs pulse width, 1% duty cycle

(3) Thermal resistance from junction to case per leg

**NOTICE:** Advanced product information is subject to change without notice



# RATINGS AND CHARACTERISTIC CURVES SBL4030PT THRU SBL4040PT

FIG. 1 - FORWARD CURRENT DERATING CURVE

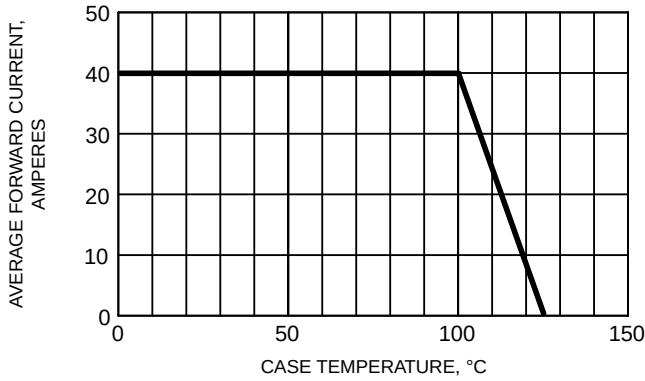


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

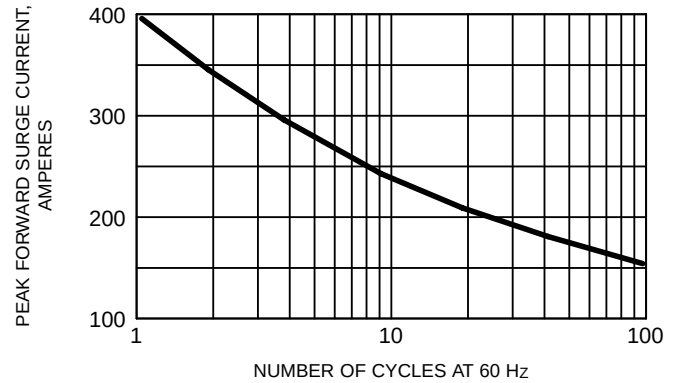


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER LEG

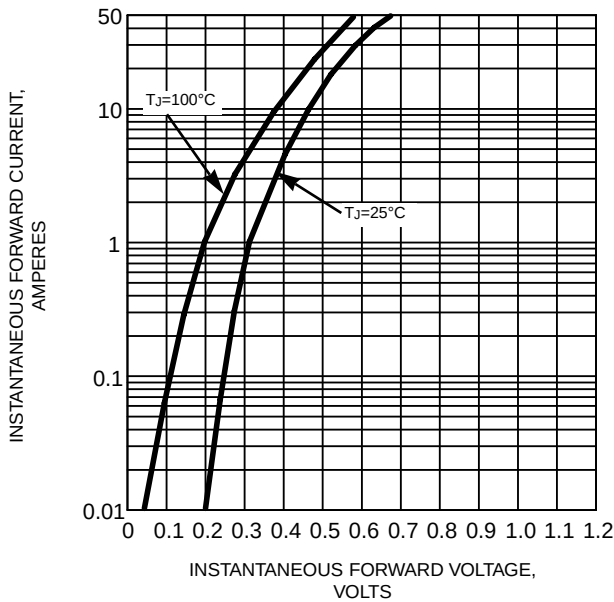


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

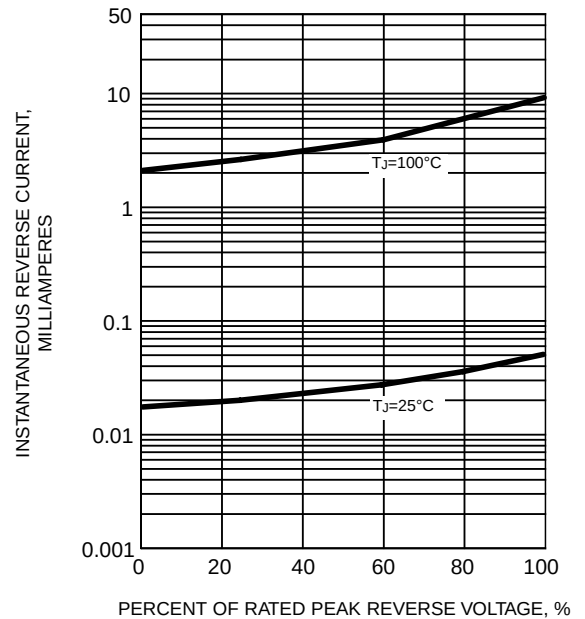


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

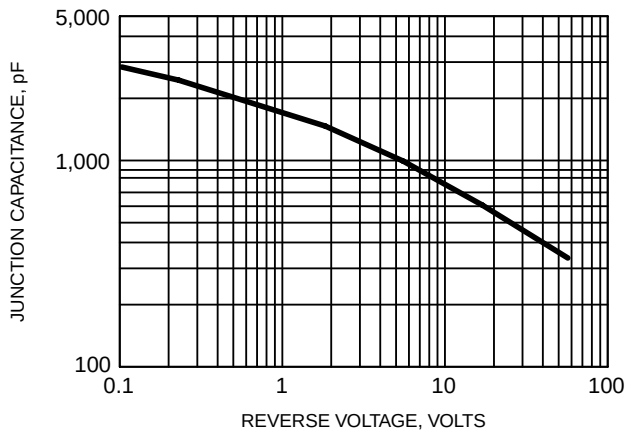


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

