

### SCHOTTKY BARRIER RECTIFIERS

VOLTAGE RANGE: 30 - 100 V  
CURRENT: 40 A

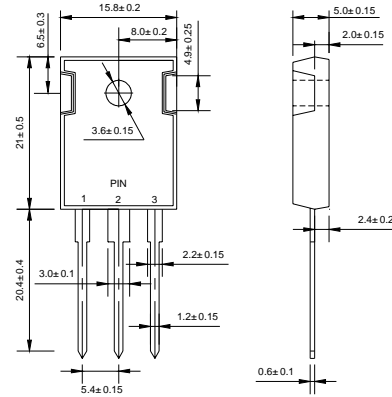
#### FEATURES

- ◇ High surge capacity.
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ◇ Metal silicon junction, majority carrier conduction.
- ◇ High current capacity, low forward voltage drop.
- ◇ Guard ring for over voltage protection.

#### MECHANICAL DATA

- ◇ Case: JEDEC TO-3P, molded plastic body
- ◇ Terminals: Solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.223 ounce, 6.3 grams

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



Dimensions in millimeters

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

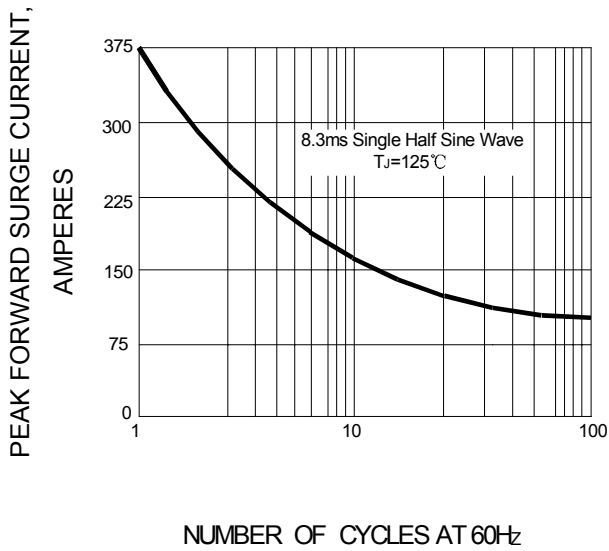
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

|  |                 | SBL<br>4030PT   | SBL<br>4035PT | SBL<br>4040PT | SBL<br>4045PT | SBL<br>4050PT | SBL<br>4060PT | SBL<br>4080PT | SBL<br>40100PT | UNITS                     |
|--|-----------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------------------|
| Maximum recurrent peak reverse voltage   | $V_{RRM}$       | 30              | 35            | 40            | 45            | 50            | 60            | 80            | 100            | V                         |
| Maximum RMS Voltage  | $V_{RMS}$       | 21              | 25            | 28            | 32            | 35            | 42            | 56            | 70             | V                         |
| Maximum DC blocking voltage  | $V_{DC}$        | 30              | 35            | 40            | 45            | 50            | 60            | 80            | 100            | V                         |
| Maximum average forward total device rectified current @ $T_C = 105^\circ\text{C}$                         | $I_{F(AV)}$     | 40              |               |               |               |               |               |               |                | A                         |
| Peak forward surge current<br>8.3ms single half sine-wave<br>superimposed on rated load                    | $I_{FSM}$       | 375             |               |               |               |               |               |               |                | A                         |
| Maximum forward voltage<br>@ $I_F=20A, T_C=25$   | $V_F$           | 0.58            |               |               | 0.75          |               | 0.85          |               |                | V                         |
| Maximum reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=100^\circ\text{C}$ | $I_R$           | 10              |               |               |               |               |               |               |                | mA                        |
|  |                 | 100             |               |               |               |               |               |               |                |                           |
| Maximum thermal resistance (Note2)   | $R_{\theta JC}$ | 1.4             |               |               |               |               |               |               |                | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range   | $T_J$           | - 55 ---- + 150 |               |               |               |               |               |               |                | $^\circ\text{C}$          |
| Storage temperature range  | $T_{STG}$       | - 55 ---- + 150 |               |               |               |               |               |               |                | $^\circ\text{C}$          |

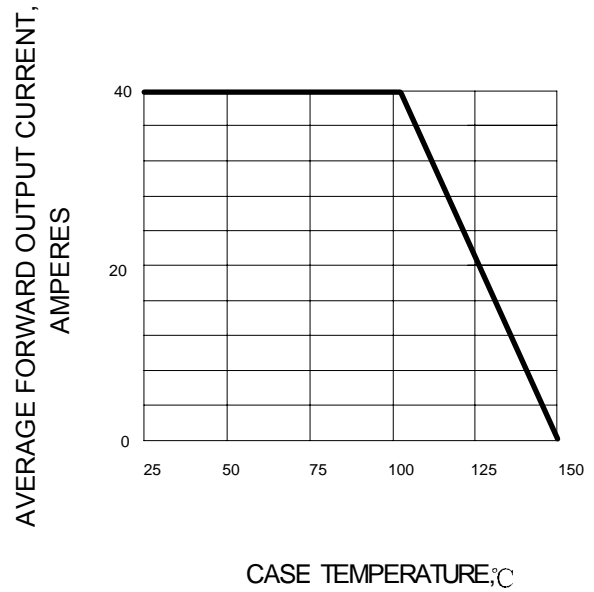
NOTE: 1. Thermal resistance from junction to case.

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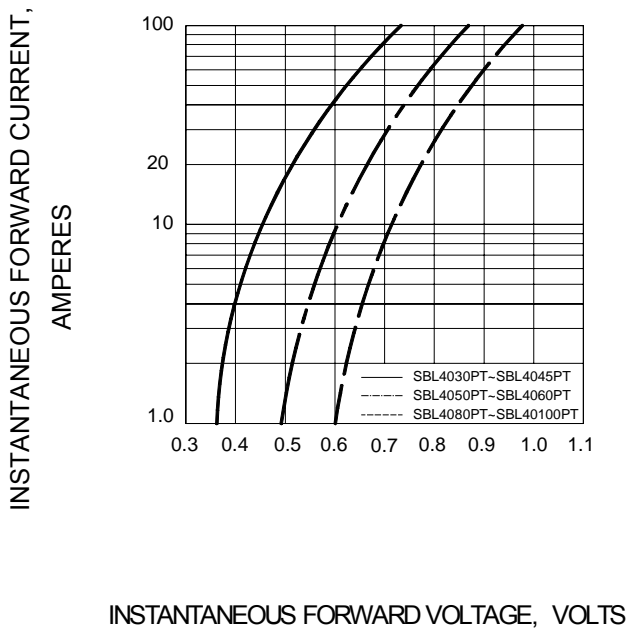
**FIG.1 – PEAK FORWARD SURGE CURRENT**



**FIG.2 – FORWARD DERATING CURVE**



**FIG.3 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.4 – TYPICAL REVERSE CHARACTERISTIC**

