Pb Free Plating Product

SBLB1630CT/SBLB1640CT

16.0 Ampere Surface Mount Common Cathode Schottky Barrier Rectifier Diodes

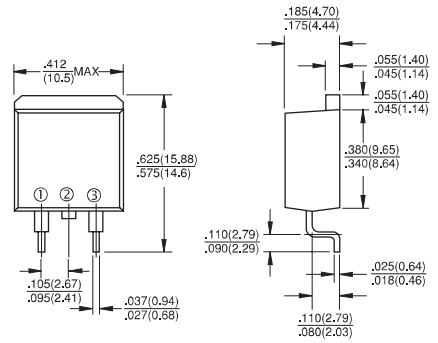
## Features

- ThinkiSemi Planar NMBR Technology
- Guardring for overvoltage protection
- Ideally Suited for Automatic Assembly
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

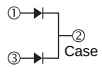
## Applications

- Freewheeling, Snubber, Clamp
- Solar Junction Box Application
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS/LED SMPS/HID

D2PAK/TO-263AB Unit : inch (mm)




Internal Configuration




Positive
Common Cathode

## Maximum Ratings ($T_C$ = 25°C unless otherwise noted)

| Parameter | Symbol | SBLB1630CT/SBLB1640CT | Unit |
|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 45V(Typical>50V) | V |
| Working peak reverse voltage | $V_{RWM}$ | 32 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 45V(Typical>50V) | V |
| Maximum average forward rectified current *Total device* / *Per leg* at $T_C$ = 95°C | $I_{F(AV)}$ | 16 / 8.0 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg | $I_{FSM}$ | 250 | A |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | –40 to +125 | °C |
| RMS Isolation voltage (SBLF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30% | $V_{ISOL}$ | 4500 (NOTE 1)<br>3500 (NOTE 2)<br>1500 (NOTE 3) | V |

## Electrical Characteristics ($T_C$ = 25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Maximum instantaneous forward voltage per leg at 10.0 A (Note 4) | $V_F$ | 0.49V | V |
| Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) $T_C$ = 25°C / $T_C$ = 100°C | $I_R$ | 0.5 / 50 | mA |

## Thermal Characteristics ($T_C$ = 25°C unless otherwise noted)

| Parameter | Symbol | SBLB1630CT/SBLB1640CT | Unit |
|---|---|---|---|
| Typical thermal resistance from junction to case per leg | $R_{\Theta JC}$ | 1.50 | °C/W |

**Notes:**
(1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
(2) Clip mounting (on case), where leads do overlap heatsink
(3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")
(4) Pulse test: 300μs pulse width, 1% duty cycle



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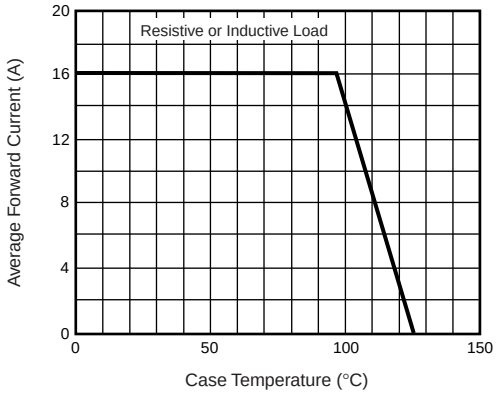
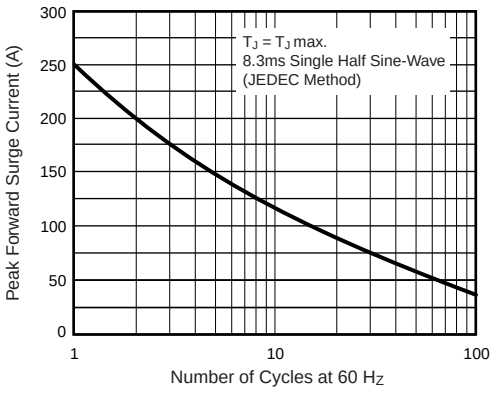
## Ratings and Characteristic Curves ($T_A$ = 25°C unless otherwise noted)

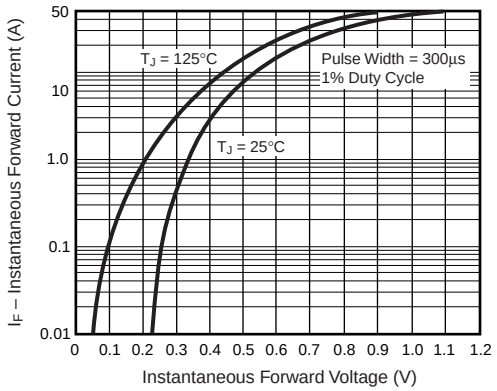
### Forward Current Derating Curve



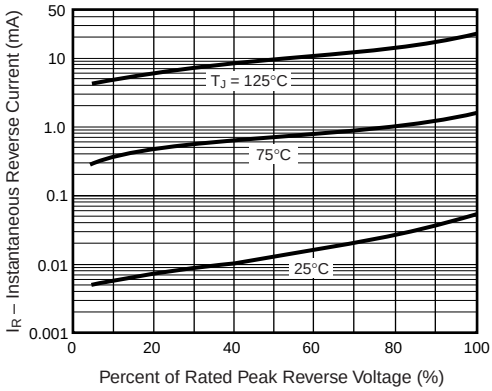

### Maximum Non-Repetitive Peak Forward Surge Current Per Leg



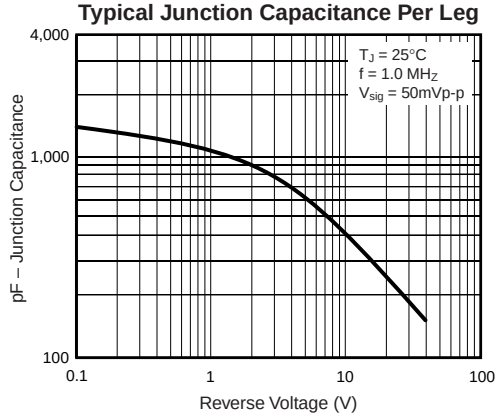

### Typical Instantaneous Forward Characteristics Per Leg



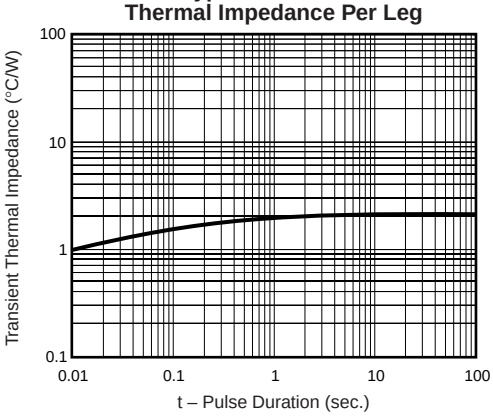

### Typical Reverse Characteristics Per Leg




### Typical Junction Capacitance Per Leg




### Typical Transient Thermal Impedance Per Leg



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