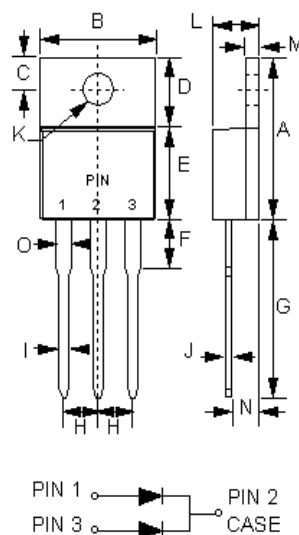


SCHOTTKY BARRIER RECTIFIER
REVERSE VOLTAGE – 40 to 45 Volts
FORWARD CURRENT – 20 Amperes
FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capability
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- IEC 61000-4-2, level 4 (ESD). > 15KV (air)

MECHANICAL DATA

- Case: JEDEC TO-220AB
- Polarity indicator: As marked on the body
- Weight: 0.08 ounces, 2.24 grams
- Terminals: Lead Free Plating (Matte Tin Finish)
- Max. mounting torque = 0.5 N.m (5.1 Kgf-cm)

TO-220AB


| TO-220AB | | |
|------------------------------|--------|--------|
| DIM. | MIN. | MAX. |
| A | 14.40 | 15.20 |
| B | 9.65 | 10.67 |
| C | 2.54 | 3.43 |
| D | 5.84 | 6.86 |
| E | 8.26 | 9.28 |
| F | - | 4.20 |
| G | 12.70 | 14.73 |
| H | 2.29 | 2.79 |
| I | 0.51 | 1.14 |
| J | 0.30 | 0.64 |
| K | 3.53 Ø | 4.09 Ø |
| L | 3.56 | 4.83 |
| M | 1.14 | 1.40 |
| N | 2.03 | 2.92 |
| O | 1.14 | 1.70 |
| All Dimensions in millimeter | | |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| PARAMETER | | | SYMBOL | SBL2040CTW | SBL2045CTW | UNIT |
|---|-----------------|---------------------|------------------|-------------|------------|------|
| Device marking code | | | Note | SBL2040CTW | SBL2045CTW | --- |
| Maximum Repetitive Peak Reverse Voltage | | | V _{RRM} | 40 | 45 | V |
| Maximum RMS Voltage | | | V _{RMS} | 28 | 31.5 | V |
| Maximum DC Blocking Voltage | | | V _{DC} | 40 | 45 | V |
| Average Rectified Output Current | @TC=100°C | | I _F | 20 | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | | | I _{FSM} | 225 | | A |
| Typical Junction Capacitance per element (1) | | | C _J | 600 | | pF |
| Storage temperature range | | | T _{STG} | -55 to +150 | | °C |
| Operating junction temperature range | | | T _J | -55 to +125 | | °C |
| PARAMETER | TEST CONDITIONS | | SYMBOL | Min. | Max. | UNIT |
| Forward Voltage (2) | IF=10A | Tj=25°C | V _F | --- | 0.55 | V |
| Leakage Current (2) | VR=Rated | Tj=25°C Tj=100°C | I _R | 0.4 50 | | mA |
| THERMAL CHARACTERISTIC | | | SYMBOL | Typical | | UNIT |
| Typical thermal resistance _ Junction to Case (3) | | | R _{θJC} | 3.0 | | °C/W |

Note :

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0 V_{DC} .
- (2) 300us Pulse Width, 2% Duty Cycle.
- (3) Thermal Resistance Junction to Case.
Device mounted on L42xH25xW25mm_ black Aluminum finny heat sink.

REV. 4, Jul-2012, KTHC90

RATING AND CHARACTERISTIC CURVES SBL2040CTW thru SBL2045CTW



FIG.1- FORWARD CURRENT DERATING CURVE

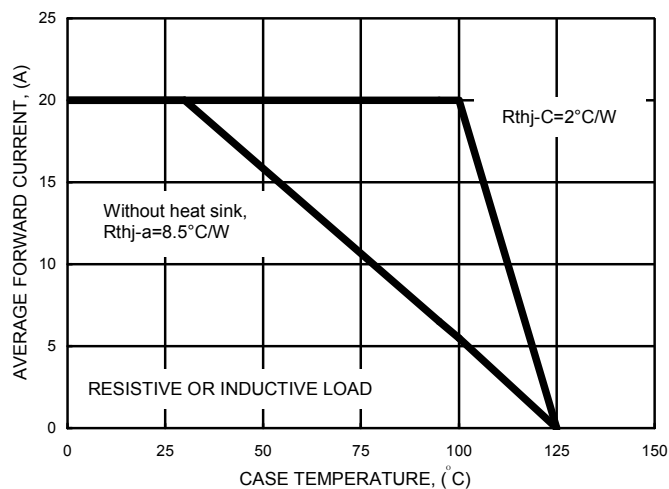


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

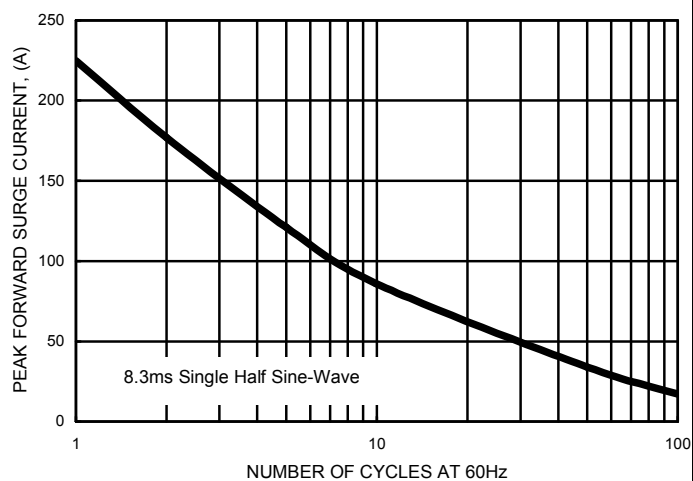


FIG.3- TYPICAL REVERSE CHARACTERISTICS

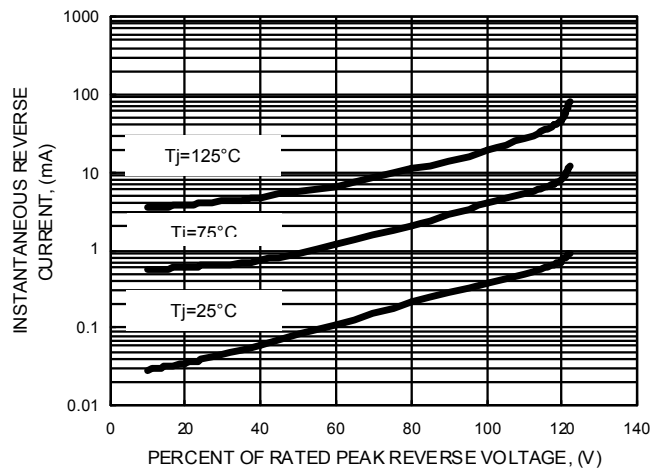


FIG.4- TYPICAL FORWARD CHARACTERISTICS

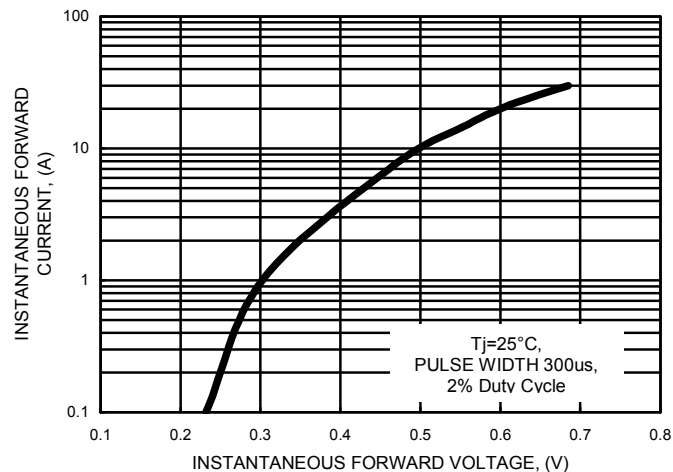


FIG.5- TYPICAL JUNCTION CAPACITANCE

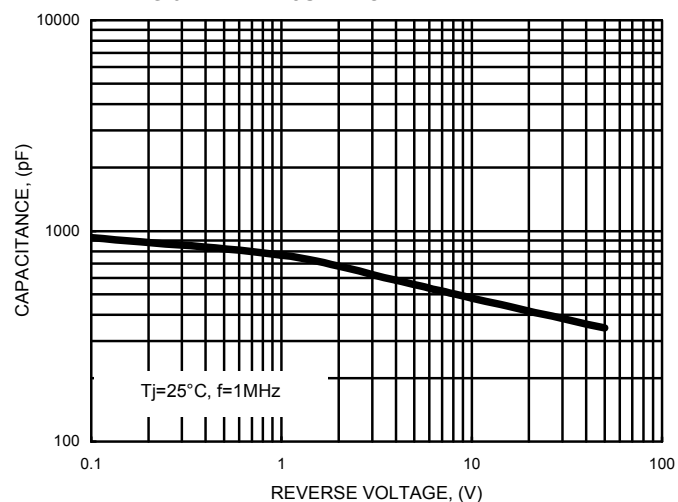
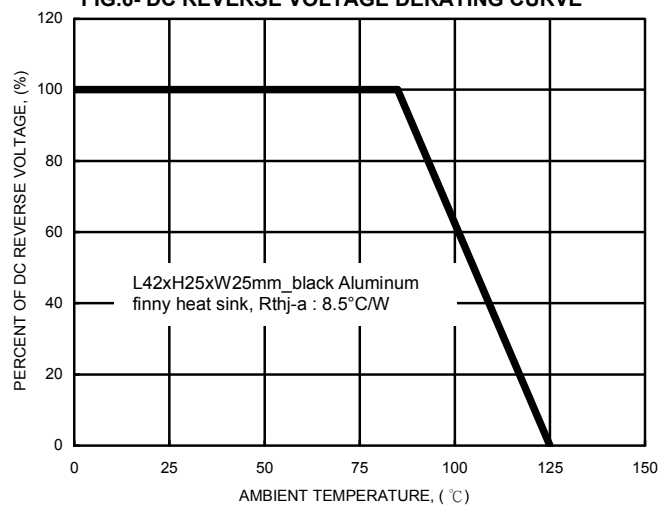


FIG.6- DC REVERSE VOLTAGE DERATING CURVE



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