

## Power Schottky Rectifier - 20Amp 45Volt

☐ Features

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- High Junction Temperature Capability
- Low forward voltage, high current capability
- High surge capacity
- Low power loss, high efficiency
- Halogen-Free

☐ Application

- Switching-Mode Power Supply
- Solar-System Control Box

☐ Absolute maximum ratings

| Symbol         | Ratings     | Unit | Conditions                        |
|----------------|-------------|------|-----------------------------------|
| $I_F(AV)$      | 20          | A    | Average Forward Current           |
| $V_{RRM}$      | 45          | V    | Repetitive Peak Reverse Voltage   |
| $I_{FSM}$      | 150         | A    | Peak Forward Surge Current        |
| $V_F$          | 0.48        | V    | Forward Voltage Drop              |
| $T_j, T_{stg}$ | -50 to +150 | °C   | Operating and Storage Temperature |

☐ Electrical characteristics

| Parameters                                  | Symbol            | Ratings  | Conditions                                   |
|---------------------------------------------|-------------------|----------|----------------------------------------------|
| Maximum Instantaneous Forward Voltage       | $V_F$             |          | Per Leg at $I_F = 10A$                       |
|                                             |                   | 0.58V    | $T_c = 25^\circ C$                           |
|                                             |                   | 0.48V    | $T_c = 125^\circ C$                          |
| Maximum Reverse Leakage Current             | $I_R$             | 1.0mA    | Per Leg at $V_R = 45V$<br>$T_c = 25^\circ C$ |
| Typical Thermal Resistance,Junction to Case | $R_{\theta(j-c)}$ | 2.2 °C/W | Per Leg<br>TO-220AB                          |
|                                             |                   | 4.5 °C/W | ITO-220AB                                    |

January 2012 / Rev.6.7

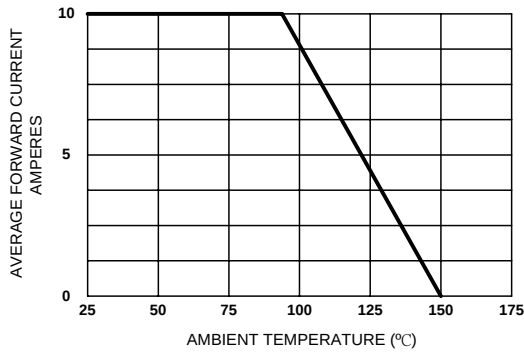


Figure 1. Forward Current Derating Curve

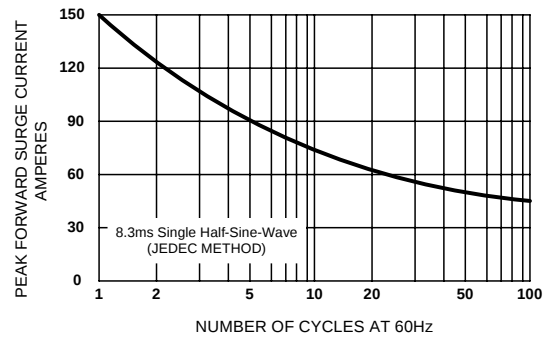


Figure 2. Maximum Non-repetitive Surge Current

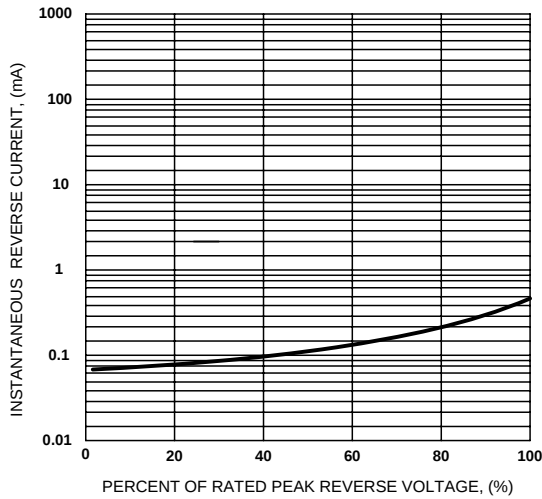


Figure 3. Typical Reverse Characteristics

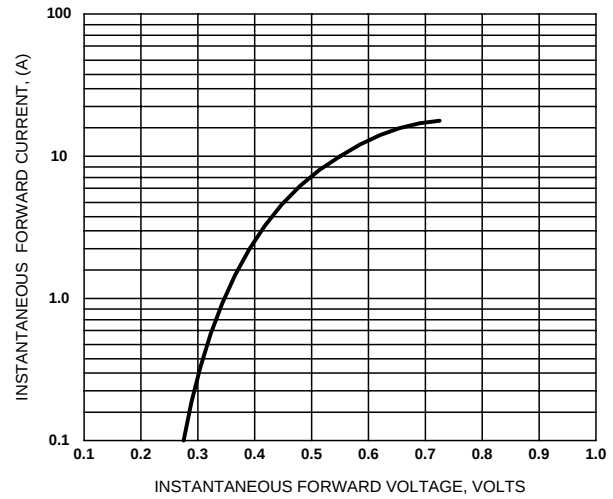


Figure 4. Typical Forward Characteristics

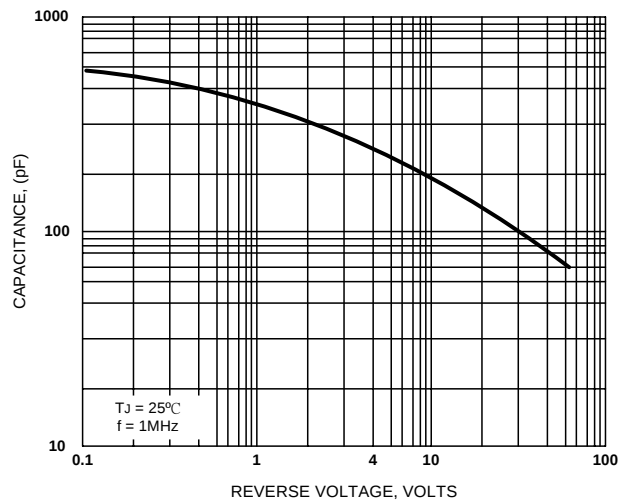
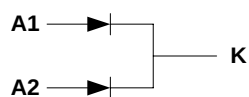
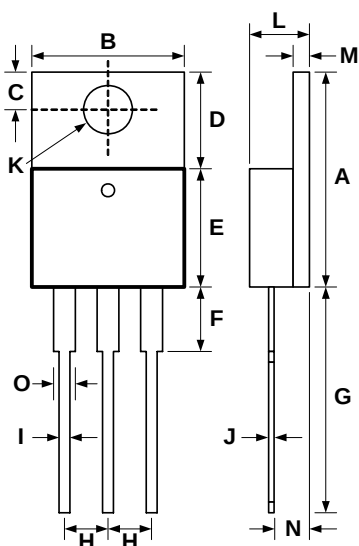


Figure 5. Typical Junction Capacitance

## SBL20C45CTH

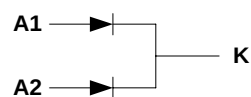
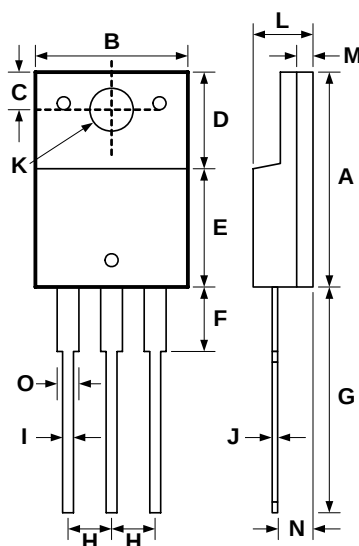
TO-220AB



| DIM | INCHES |      | MM    |       | NOTE |
|-----|--------|------|-------|-------|------|
|     | MIN    | MAX  | MIN   | MAX   |      |
| A   | .579   | .606 | 14.70 | 15.40 |      |
| B   | .392   | .411 | 9.95  | 10.45 |      |
| C   | .114   | .126 | 2.90  | 3.20  |      |
| D   | .248   | .272 | 6.30  | 6.90  |      |
| E   | .325   | .350 | 8.25  | 8.90  |      |
| F   | .153   | .173 | 3.90  | 4.40  |      |
| G   | .492   | .551 | 12.50 | 14.00 |      |
| H   | .096   | .108 | 2.45  | 2.75  |      |
| I   | .028   | .039 | 0.70  | 1.00  |      |
| J   | .010   | .022 | 0.25  | 0.55  |      |
| K   | .146   | .157 | 3.70  | 4.00  |      |
| L   | .167   | .187 | 4.25  | 4.75  |      |
| M   | .045   | .057 | 1.15  | 1.45  |      |
| N   | .089   | .114 | 2.25  | 2.90  |      |
| O   | .047   | .055 | 1.20  | 1.40  |      |

## SBL20C45FCTH

ITO-220AB



| DIM | INCHES |      | MM    |       | NOTE |
|-----|--------|------|-------|-------|------|
|     | MIN    | MAX  | MIN   | MAX   |      |
| A   | .577   | .600 | 14.65 | 15.25 |      |
| B   | .386   | .406 | 9.80  | 10.30 |      |
| C   | .106   | .122 | 2.70  | 3.10  |      |
| D   | .258   | .274 | 6.55  | 6.95  |      |
| E   | .315   | .331 | 8.00  | 8.40  |      |
| F   | .110   | .161 | 2.80  | 4.10  |      |
| G   | .508   | .551 | 12.90 | 14.00 |      |
| H   | .089   | .106 | 2.25  | 2.70  |      |
| I   | .020   | .028 | 0.50  | 0.70  |      |
| J   | .020   | .028 | 0.50  | 0.70  |      |
| K   | .120   | .138 | 3.05  | 3.50  |      |
| L   | .169   | .185 | 4.30  | 4.70  |      |
| M   | .039   | .051 | 1.00  | 1.30  |      |
| N   | .079   | .112 | 2.00  | 2.85  |      |
| O   | .043   | .055 | 1.10  | 1.40  |      |