

## TO-247- 3L Plastic-Encapsulate Diodes

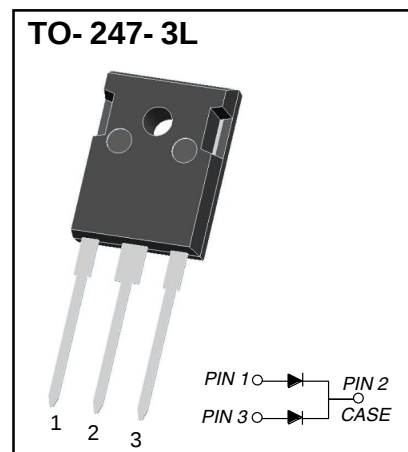
Schottky Barrier Rectifier

### MAIN CHARACTERISTICS

|              |                               |
|--------------|-------------------------------|
| $I_o$        | 30(15×2)A                     |
| $V_{RRM}$    | 200 V                         |
| $T_j$        | 175 °C                        |
| $V_{F(typ)}$ | 0.69V (@ $T_j=150^{\circ}C$ ) |

### FEATURES

- Low Power Loss,High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop
- Metal Silicon Junction, Majority Carrier Conduction.
- For Use In Low Voltage,High Frequency Inverters, Free Wheeling and Polarity Protection Applications.



### Mechical Data

- Case: TO-247-3L
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208

### MAXIMUM RATINGS ( $T_a=25^{\circ}C$ unless otherwise noted )

| Symbol          | Parameter                                                         | SBDW30H200CTB | Unit |
|-----------------|-------------------------------------------------------------------|---------------|------|
| $V_{RRM}$       | Peak repetitive reverse voltage                                   | 200           | V    |
| $V_{RWM}$       | Working peak reverse voltage                                      |               |      |
| $V_R$           | DC blocking voltage                                               |               |      |
| $V_{R(RMS)}$    | RMS reverse voltage                                               | 140           | V    |
| $I_o$           | Average rectified output current@ Per leg                         | 15            | A    |
|                 | Average rectified output current@ Total device                    | 30            | A    |
| $I_{FSM}$       | Non-Repetitive peak forward surge current<br>8.3ms half sine wave | 300           | A    |
| $R_{\theta JC}$ | Thermal resistance from junction to case                          | 1.5           | °C/W |
| $T_j$           | Operating Junction Temperature Range                              | -55 ~ +175    | °C   |
| $T_{stg}$       | Storage Temperature Range                                         | -55 ~ +175    | °C   |

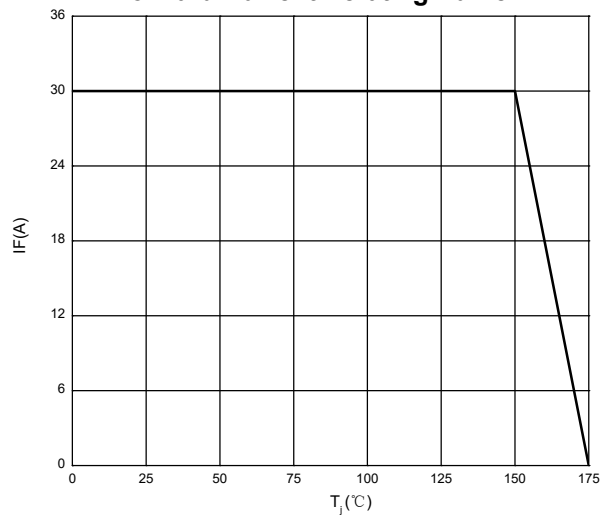
### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ unless otherwise specified)

| Parameter       | Symbol     | Test conditions | Min                | Typ  | Max  | Unit |
|-----------------|------------|-----------------|--------------------|------|------|------|
| Reverse voltage | $V_{(BR)}$ | $I_R=0.1mA$     | 200                |      |      | V    |
| Reverse current | $I_R$      | $V_R=200V$      | $T_j=25^{\circ}C$  | 0.07 | 0.5  | uA   |
|                 |            |                 | $T_j=150^{\circ}C$ | 0.1  |      | mA   |
| Forward voltage | $V_F$      | $I_F=10A$       | $T_j=25^{\circ}C$  | 0.79 |      | V    |
|                 |            |                 | $T_j=150^{\circ}C$ | 0.64 |      | V    |
|                 |            | $I_F=15A$       | $T_j=25^{\circ}C$  | 0.83 | 0.90 | V    |
|                 |            |                 | $T_j=150^{\circ}C$ | 0.69 |      | V    |

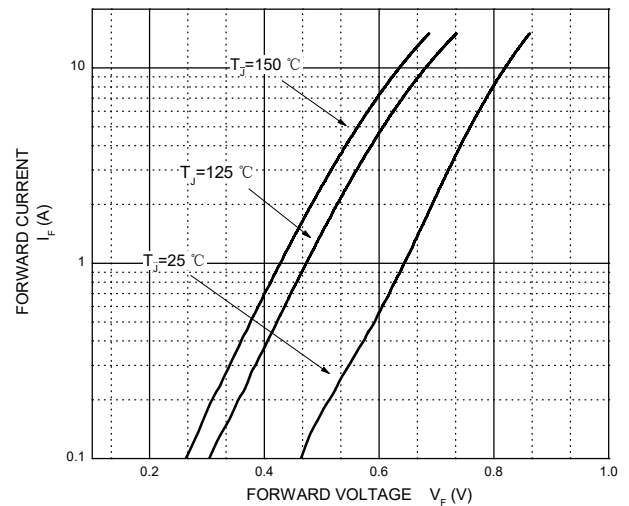
\*Pulse test: pulse width  $\leq 300\mu s$ , duty cycles  $\leq 2.0\%$ .

## Typical Characteristics

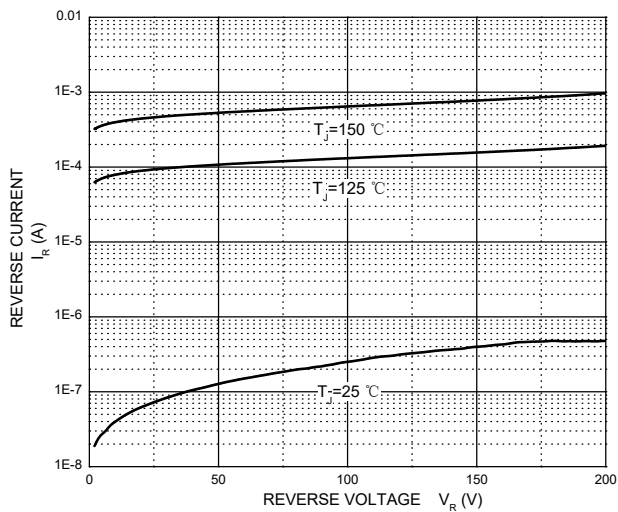
**Forward Current Derating Curve**



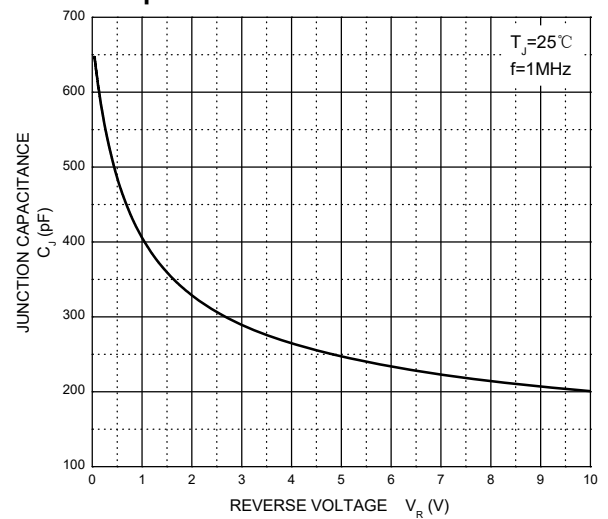
**Forward Characteristics**



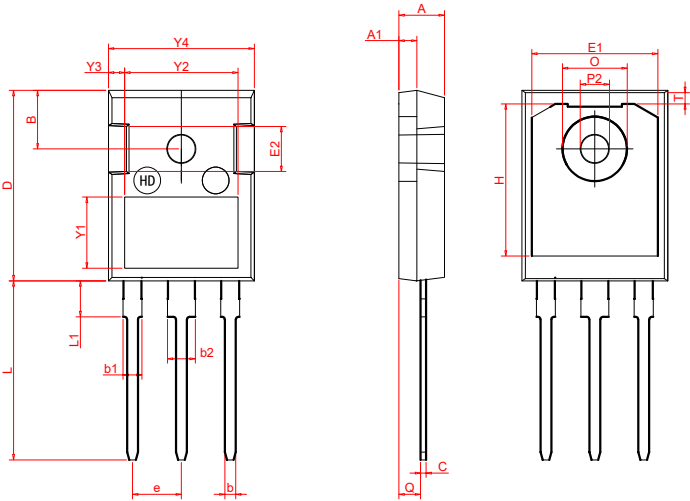
**Reverse Characteristics**



**Capacitance Characteristics Per Diode**



TO- 247-3L Package Outline Dimensions

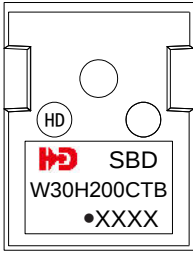


| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 4.700                     | 5.300  | 0.185                | 0.209 |
| A1     | 1.700                     | 2.300  | 0.067                | 0.091 |
| C      | 0.450                     | 0.750  | 0.018                | 0.030 |
| Q      | 2.200                     | 2.600  | 0.087                | 0.102 |
| O      | 7.100                     | 7.400  | 0.280                | 0.291 |
| P2     | 3.450                     | 3.750  | 0.136                | 0.148 |
| L      | 19.000                    | 21.000 | 0.748                | 0.827 |
| L1     | 4.2                       | 4.5    | 0.165                | 0.177 |
| b      | 1.000                     | 1.400  | 0.039                | 0.055 |
| b1     | 1.800                     | 2.250  | 0.071                | 0.089 |
| b2     | 3.000                     | 3.300  | 0.118                | 0.130 |
| e      | 5.250                     | 5.550  | 0.207                | 0.219 |
| D      | 20.950                    | 21.350 | 0.825                | 0.841 |
| Y1     | 7.600                     | 8.100  | 0.299                | 0.319 |
| Y2     | 11.000                    | 13.000 | 0.433                | 0.512 |
| Y3     | 1.750                     | 2.250  | 0.069                | 0.089 |
| Y4     | 16.000                    | 16.400 | 0.630                | 0.646 |
| E2     | 4.600                     | 4.900  | 0.181                | 0.193 |
| T      | 1.35REF                   |        | 0.053REF             |       |
| H      | 16.25REF                  |        | 0.639REF             |       |
| E1     | 14REF                     |        | 0.551REF             |       |
| B      | 6.55REF                   |        | 0.257REF             |       |

Ordering Information

| Part Number   | Package   | Shipping Quantity |
|---------------|-----------|-------------------|
| SBDW30H200CTB | TO-247-3L | 30pcs/Tube        |

Marking Diagram



XXXX = Code