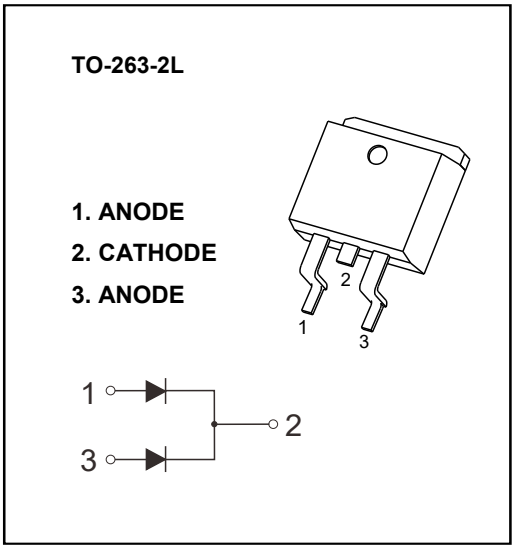
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

# TO-263-2L Plastic-Encapsulate Diode

## SBDB20H200CTB SCHOTTKY BARRIER RECTIFIER

**MAIN CHARACTERISTICS**

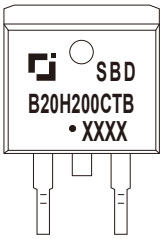
| | |
|---|---|
| $I_O$ | 20（2×10）A |
| $V_{RRM}$ | 200 V |
| $T_j$ | 175 ℃ |
| $V_{F(typ)}$ | 0.67V （@Ta=150℃） |




### FEATURES

- Low Power Loss,High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

### MARKING




SBDB20H200CTB = Device code
Solid dot = Green molding compound device
if none, the normal device
XXXX = Code

### MAXIMUM RATINGS ( $T_a$=25℃ unless otherwise noted )

| Symbol | Parameter | Value | 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 | 20 | A |
| $I_{FSM}$ | Non-Repetitive peak forward surge current (8.3ms half sine wave) | 200 | A |
| $R_{\Theta JC}$ | Thermal resistance from junction to case ,Tc=25℃ | 2.0 | ℃/W |
| $R_{\Theta JA}$ | Thermal resistance from junction to ambient | 62.5 | ℃/W |
| $T_j$ | Junction temperature | 175 | ℃ |
| $T_{stg}$ | Storage temperature | -55~+175 | ℃ |

### ELECTRICAL CHARACTERISTICS ($T_a$=25℃ 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 | Tj =25℃ | | 0.1 | 0.5 | uA |
| | | | Tj =150℃ | | 0.1 | | mA |
| Forward voltage | $V_F$ | $I_F$=5A | Tj =25℃ | | 0.78 | | V |
| | | | Tj =150℃ | | 0.60 | | V |
| | | $I_F$=10A | Tj =25℃ | | 0.84 | 0.90 | V |
| | | | Tj =150℃ | | 0.67 | | V |

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

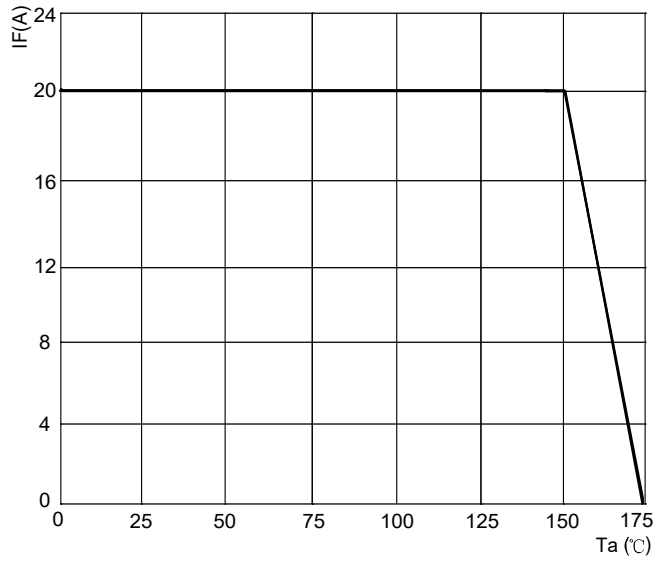



FIG.2: TYPICAL FORWARD CHARACTERISTICS

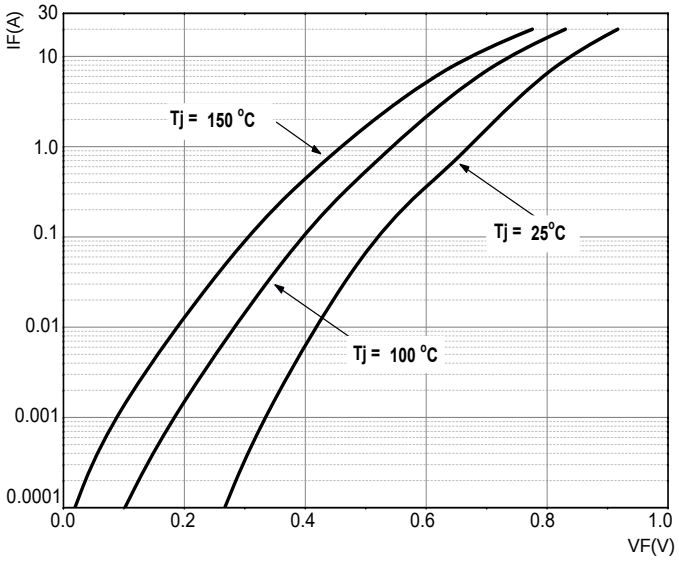



FIG.3: TOTAL CAPACITANCE DERATING CURVE

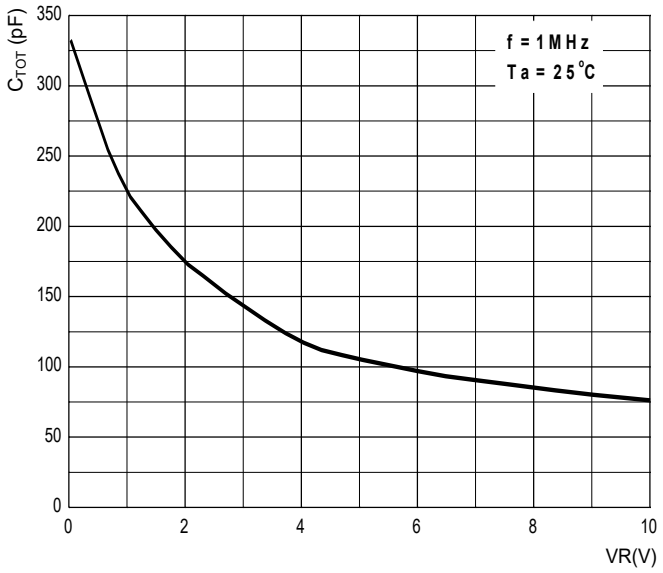
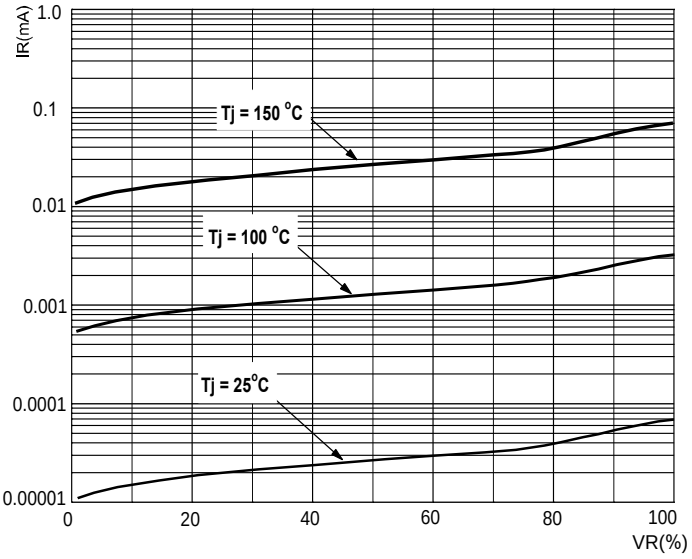
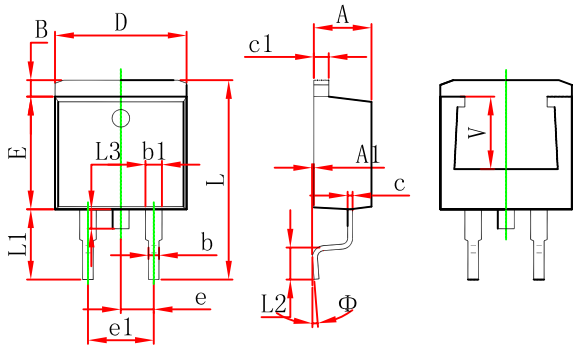



FIG.4: TYPICAL REVERSE CHARACTERISTICS

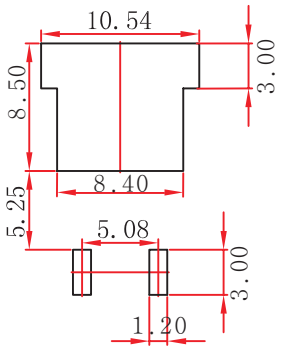


## TO-263-2L Package Outline Dimensions




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 4.470 | 4.670 | 0.176 | 0.184 |
| A1 | 0.000 | 0.150 | 0.000 | 0.006 |
| B | 1.120 | 1.420 | 0.044 | 0.056 |
| b | 0.710 | 0.910 | 0.028 | 0.036 |
| b1 | 1.170 | 1.370 | 0.046 | 0.054 |
| c | 0.310 | 0.530 | 0.012 | 0.021 |
| c1 | 1.170 | 1.370 | 0.046 | 0.054 |
| D | 10.010 | 10.310 | 0.394 | 0.406 |
| E | 8.500 | 8.900 | 0.335 | 0.350 |
| e | 2.540 TYP. | | 0.100 TYP. | |
| e1 | 4.980 | 5.180 | 0.196 | 0.204 |
| L | 14.940 | 15.500 | 0.588 | 0.610 |
| L1 | 4.950 | 5.450 | 0.195 | 0.215 |
| L2 | 2.340 | 2.740 | 0.092 | 0.108 |
| L3 | 1.300 | 1.700 | 0.051 | 0.067 |
| Φ | 0° | 8° | 0° | 8° |
| V | 5.600 REF. | | 0.220REF. | |

## TO-263-2L Suggested Pad Layout




Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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