

TO-263-2L Plastic-Encapsulate Diodes

Schottky Barrier Rectifier

MAIN CHARACTERISTICS

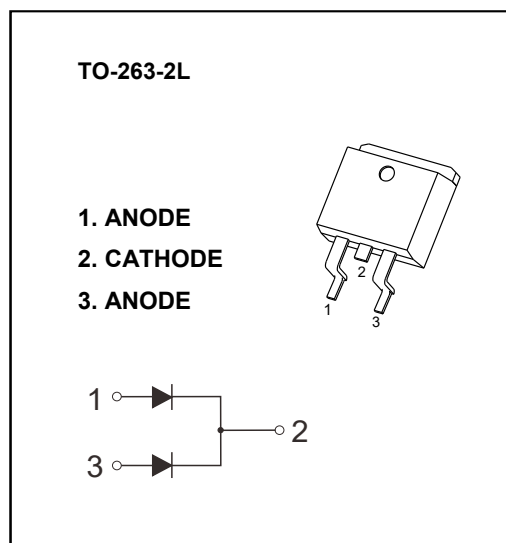
| | |
|--------------|---|
| I_o | 40 (20×2) A |
| V_{RRM} | 200 V |
| T_j | 175 °C |
| $V_{F(typ)}$ | 0.68V (@$T_j=150^{\circ}C$) |

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-263-2L (D²PAK)
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end



MAXIMUM RATINGS ($T_a=25^{\circ}C$ 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 | 40 | A |
| I_{FSM} | Non-Repetitive peak forward surge current (8.3ms half sine wave) | 350 | A |
| $R_{\theta Jc}$ | Thermal resistance from junction to case , $T_c=25^{\circ}C$ | 2.0 | $^{\circ}C/W$ |
| $R_{\theta JA}$ | Thermal resistance from junction to ambient | 75 | $^{\circ}C/W$ |
| T_j | Junction temperature | 175 | $^{\circ}C$ |
| T_{stg} | Storage temperature | -55~+175 | $^{\circ}C$ |

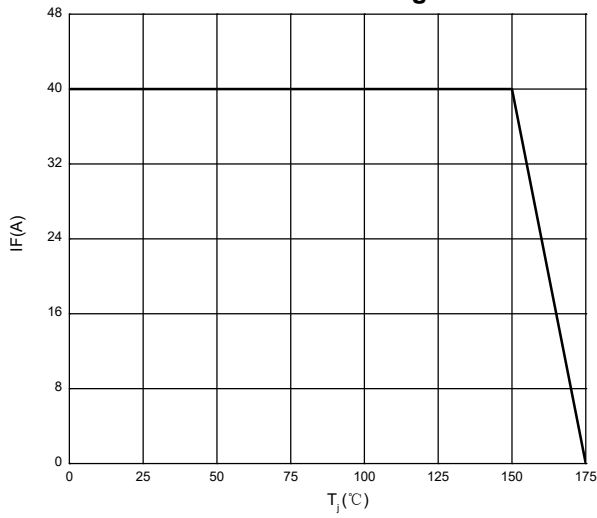
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|-----------------|------------|-----------------|--------------------|------|-----|------|
| Reverse voltage | $V_{(BR)}$ | $I_R=0.1mA$ | 200 | | | V |
| Reverse current | I_R | $V_R=200V$ | $T_j=25^{\circ}C$ | 50 | 500 | nA |
| | | | $T_j=150^{\circ}C$ | 1.2 | | mA |
| Forward voltage | V_F | $I_F=10A$ | $T_j=25^{\circ}C$ | 0.77 | | V |
| | | | $T_j=150^{\circ}C$ | 0.60 | | V |
| | | $I_F=20A$ | $T_j=25^{\circ}C$ | 0.83 | 0.9 | V |
| | | | $T_j=150^{\circ}C$ | 0.68 | | V |

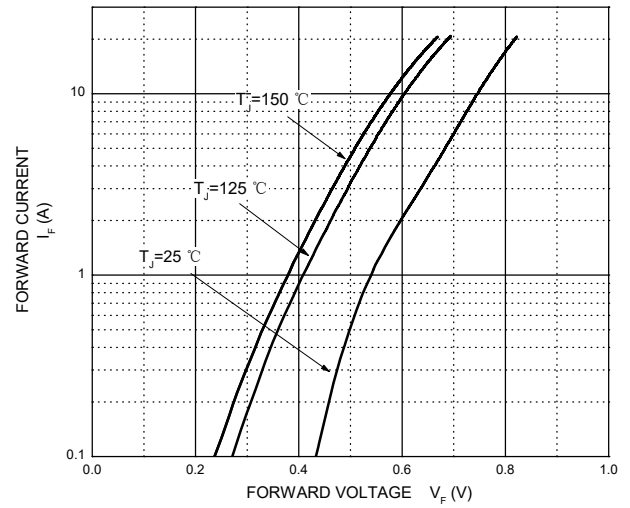
*Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$.

Typical Characteristics

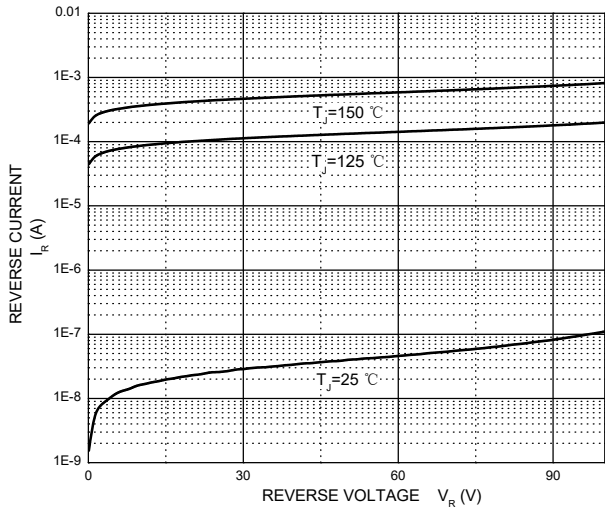
Forward Current Derating Curve



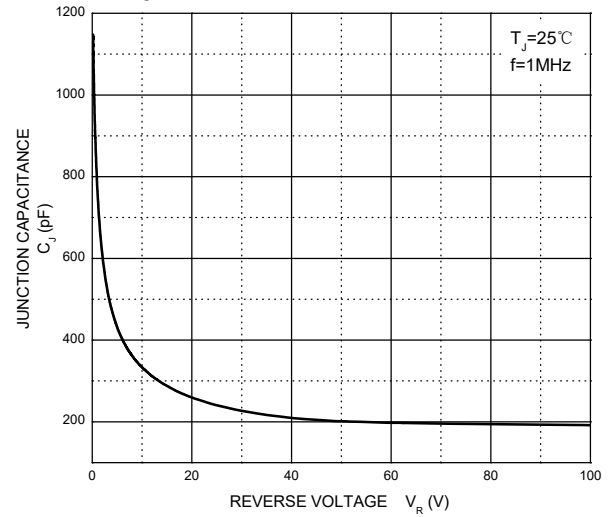
Forward Characteristics



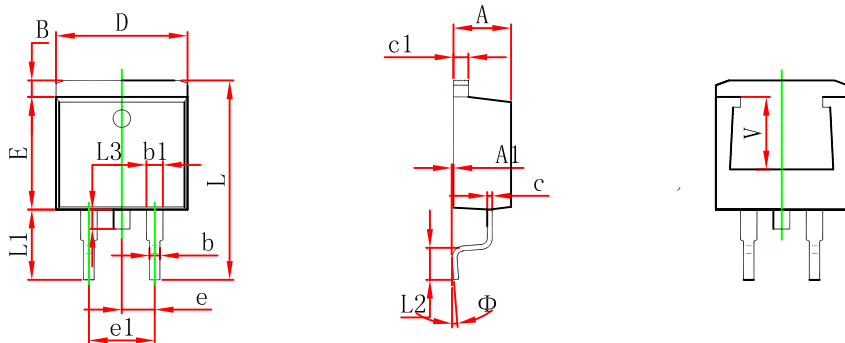
Reverse Characteristics



Capacitance Characteristics Per Diode

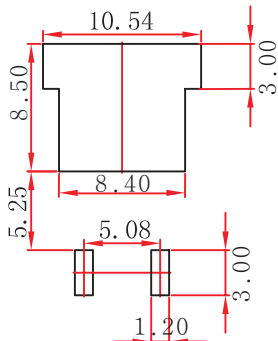


TO-263-2L Package Outline Dimensions



| 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. | | 0.220 REF. | |

TO-263-2L Suggested Pad Layout



Note:

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

Ordering Information

| Part Number | Package | Shipping Quantity |
|---------------|-----------|-------------------|
| SBDB40H200CTB | TO-263-2L | 800/tape&Reel |

Marking Diagram

