

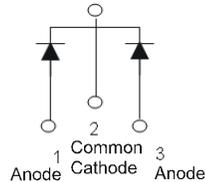
Product Summary

| V_{RRM} (V) | I_o (A) | $V_F(MAX)$ (V) @ +25°C | $I_R(MAX)$ (mA) @ +25°C |
|---------------|---------------------------|---------------------------|----------------------------|
| 100 | 5 (Per Leg) 10 (Total) | 0.84 | 0.2 |

Description and Applications

The SBR10100CTB provides very low V_F and excellent reverse leakage stability at high temperatures. It is ideal for use as a rectifier, freewheel diode or blocking diode in:

- DC-DC Converters
- AC-DC Adaptors



Package Pin Out Configuration

Features and Benefits

- Patented Trench SBR[®] Technology Provides Superior Avalanche Capability Versus Schottky Diodes, Ensuring more Rugged and Reliable End Applications
- Reduced Ultra-Low Forward Voltage Drop (V_F); Better Efficiency and Cooler Operation
- Reduced High Temperature Reverse Leakage; Increased Reliability Against Thermal Runaway Failure in High Temperature Operation
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: TO263AB
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208^③
- Polarity: See Below
- Weight: 1.6grams (Approximate)

TO263AB (Standard)



Top View

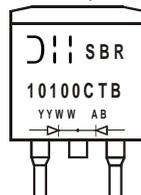
Ordering Information (Note 4)

| Part Number | Case | Packaging |
|----------------|--------------------|-------------------|
| SBR10100CTB | TO263AB (Standard) | 50 Pieces/Tube |
| SBR10100CTB-13 | TO263AB (Standard) | 800 / Tape & Reel |

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information

TO263AB (Standard)



⑆ = Manufacturer's Marking
 SBR10100CTB = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 19 = 2019)
 WW = Week (01 to 53)

Maximum Ratings (Per Leg) (@T_A = +25°C unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | Value | Unit |
|---|------------------|-------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 100 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _{RM} | | |
| Average Rectified Output Current | I _O | 10 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 80 | A |

Thermal Characteristics (Per Leg)

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Maximum Thermal Resistance (Note 5) | R _{θJC} | 6 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +175 | °C |

Electrical Characteristics (Per Leg) (@T_A = +25°C unless otherwise specified.)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------------|----------------|-----|------|------|------|--|
| Forward Voltage Drop (Per Leg) | V _F | - | 0.77 | 0.84 | V | I _F = 5A, T _J = +25°C |
| | | | - | 0.71 | | I _F = 5A, T _J = +125°C |
| Leakage Current (Note 6) | I _R | - | - | 0.2 | mA | V _R = 100V, T _J = +25°C |
| | | | 2 | 40 | | V _R = 100V, T _J = +125°C |

Notes: 5. Device mounted on 2-inch sq. Al board, minimum recommended pad layout as shown on Diodes Incorporated's suggested pad layout document, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
6. Short duration pulse test used to minimize self-heating effect.

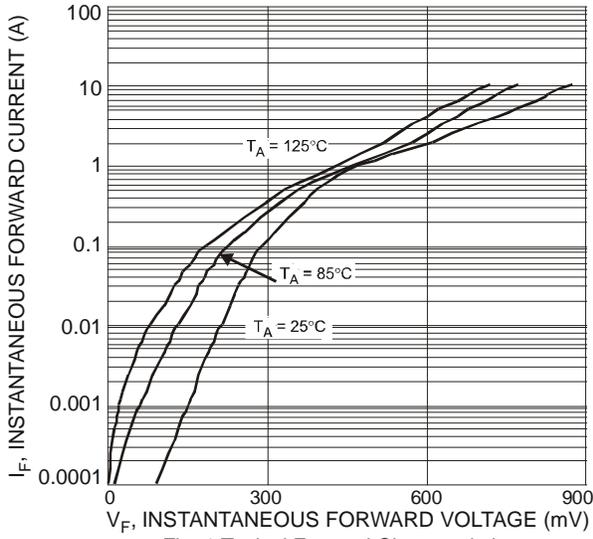


Fig. 1 Typical Forward Characteristics

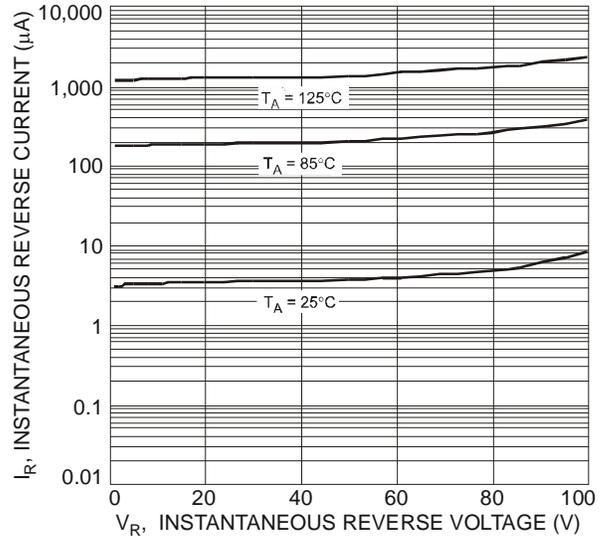


Fig. 2 Typical Reverse Characteristics

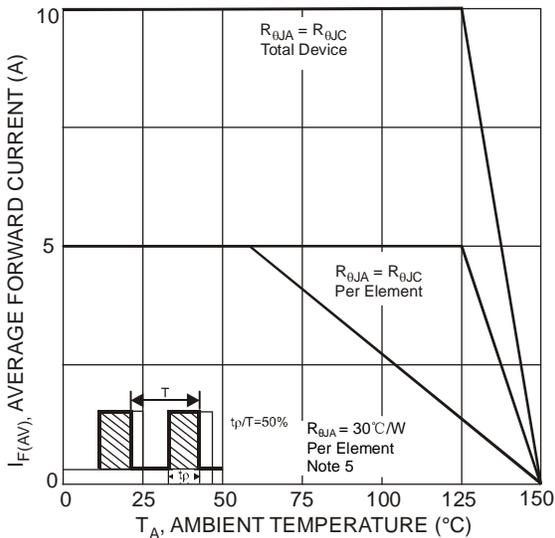
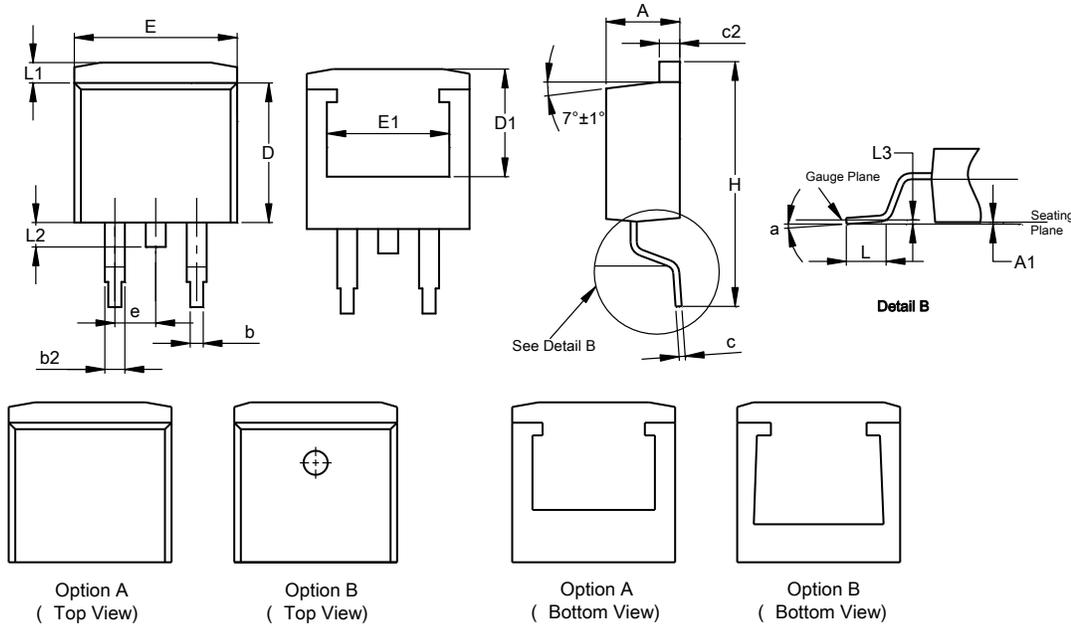


Fig. 3 Forward Current Derating Curve

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TO263AB (Standard)



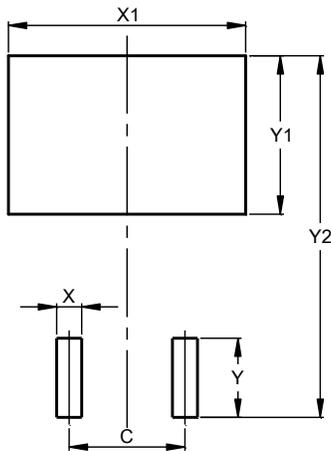
| TO263AB (Standard) | | | |
|--------------------|----------|-------|-------|
| Dim | Min | Max | Typ |
| A | 4.07 | 4.82 | - |
| A1 | 0.00 | 0.25 | - |
| b | 0.51 | 0.99 | - |
| b2 | 1.15 | 1.77 | - |
| c | 0.356 | 0.73 | - |
| c2 | 1.143 | 1.65 | - |
| D | 8.39 | 9.65 | - |
| D1 | 6.55 | 7.80 | - |
| e | 2.54 TYP | | - |
| E | 9.66 | 10.66 | - |
| E1 | 6.23 | 8.23 | - |
| H | 14.61 | 15.87 | - |
| L | 1.78 | 2.79 | - |
| L1 | - | 1.67 | - |
| L2 | - | 1.77 | - |
| L3 | - | - | 0.254 |
| a | 0° | 8° | - |

All Dimensions in mm

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

TO263AB (Standard)



| Dimensions | Value (in mm) |
|------------|---------------|
| C | 5.08 |
| X | 1.10 |
| X1 | 10.41 |
| Y | 3.50 |
| Y1 | 7.01 |
| Y2 | 15.99 |

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