

## Product Summary (Per Leg)

| V <sub>RRM</sub> (V) | I <sub>O</sub> (A) | V <sub>F</sub> Max (V)<br>@ +25°C | I <sub>R</sub> Max (μA)<br>@ +25°C |
|----------------------|--------------------|-----------------------------------|------------------------------------|
| 100                  | 30                 | 0.8                               | 120                                |

## Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- **This part is qualified to JEDEC standards (as references in AEC-Q101) for High Reliability. <https://www.diodes.com/quality/product-definitions/>**

## Description and Applications

The Trench Schottky provides very low V<sub>F</sub> and extremely 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

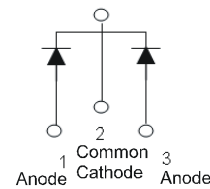
## Mechanical Data

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

TO263AB (Standard)



Top View



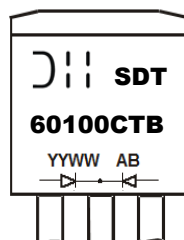
Package Pin Out Configuration

## Ordering Information (Note 4)

| Part Number    | Case               | Packaging       |
|----------------|--------------------|-----------------|
| SDT60100CTB-13 | TO263AB (Standard) | 800 Pieces/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 <https://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



SDT = Manufacturers' Marking  
 SDT60100CTB = 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<sub>A</sub> = +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 <sub>R</sub> RM | 100      | V    |
| Working Peak Reverse Voltage   | V <sub>R</sub> WM |          |      |
| DC Blocking Voltage  | V <sub>R</sub> M  |          |      |
| Average Rectified Output Current per Device (Per Leg) (Total)                                    | I <sub>o</sub>    | 30<br>60 | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>  | 320      | A    |
| Voltage Rate of Change (Rated V <sub>R</sub> )   | dV/dt             | 10000    | V/μs |

**Thermal Characteristics** (Per Leg)

| Characteristic  | Symbol                            | Value       | Unit |
|---|-----------------------------------|-------------|------|
| Typical Thermal Resistance Junction to Case (Note 5)    | R <sub>θ</sub> JC                 | 2           | °C/W |
| Typical Thermal Resistance Junction to Ambient (Note 5) | R <sub>θ</sub> JA                 | 12          | °C/W |
| Operating and Storage Temperature Range                 | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 | °C   |

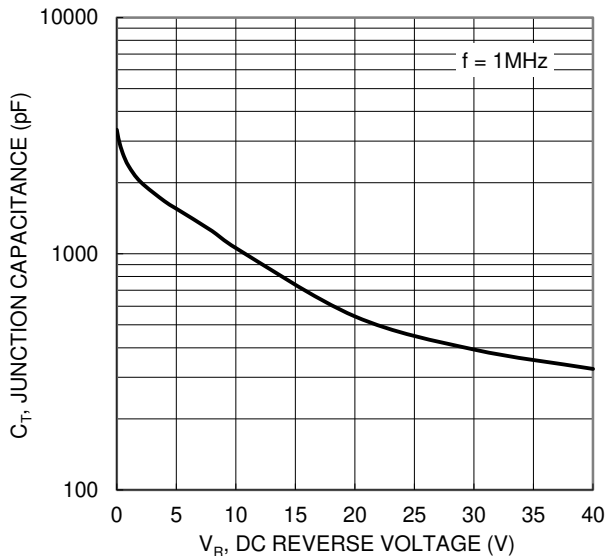
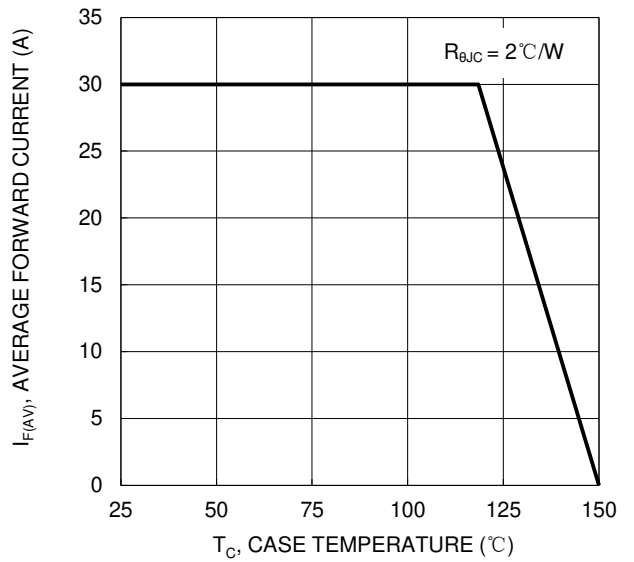
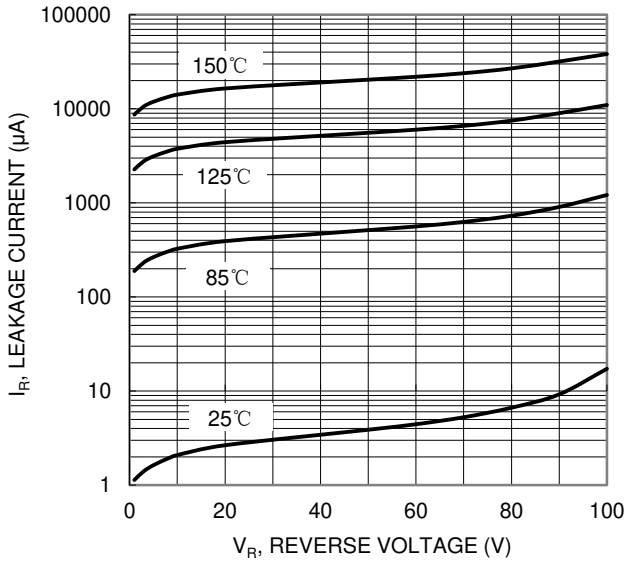
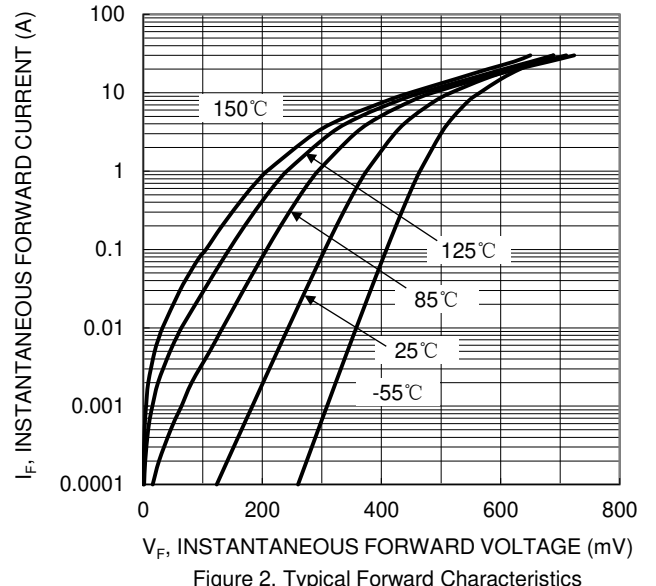
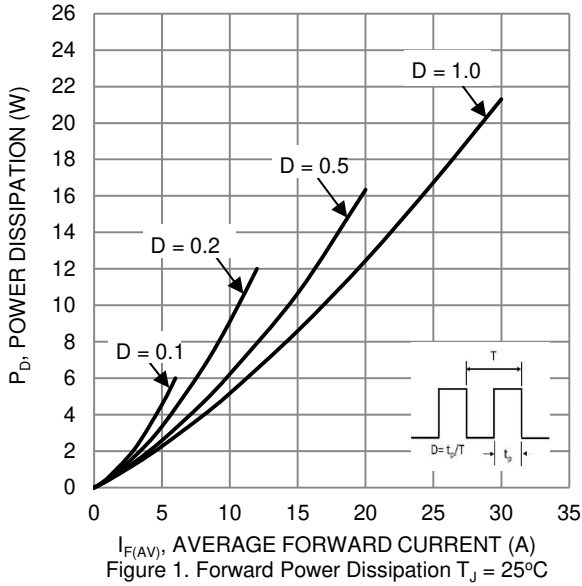
Note: 5. With 50mm\*50mm\*23mm Al heatsink. The heat generated must be less than the thermal conductivity from junction to case:  $dP_D/dT_J < 1/R_{\theta JC}$  or junction to ambient:  $dP_D/dT_J < 1/R_{\theta JA}$ .

**Electrical Characteristics** (Per Leg) (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic           | Symbol         | Min | Typ  | Max  | Unit | Test Condition                                 |
|--------------------------|----------------|-----|------|------|------|--|
| Forward Voltage Drop     | V <sub>F</sub> | —   | 0.45 | —    | V    | I <sub>F</sub> = 5A, T <sub>J</sub> = +25°C    |
|                          |                |     | 0.37 | —    |      | I <sub>F</sub> = 5A, T <sub>J</sub> = +125°C   |
|                          |                |     | 0.58 | —    |      | I <sub>F</sub> = 15A, T <sub>J</sub> = +25°C   |
|                          |                |     | 0.56 | —    |      | I <sub>F</sub> = 15A, T <sub>J</sub> = +125°C  |
|                          |                |     | 0.72 | 0.80 |      | I <sub>F</sub> = 30A, T <sub>J</sub> = +25°C   |
|                          |                |     | 0.68 | 0.75 |      | I <sub>F</sub> = 30A, T <sub>J</sub> = +125°C  |
| Leakage Current (Note 6) | I <sub>R</sub> | —   | 6    | —    | μA   | V <sub>R</sub> = 70V, T <sub>J</sub> = +25°C   |
|                          |                |     | 7    | —    | mA   | V <sub>R</sub> = 70V, T <sub>J</sub> = +125°C  |
|                          |                |     | 17   | 120  | μA   | V <sub>R</sub> = 100V, T <sub>J</sub> = +25°C  |
|                          |                |     | 11   | 50   | mA   | V <sub>R</sub> = 100V, T <sub>J</sub> = +125°C |

Note: 6. Short duration pulse test used to minimize self-heating effect.

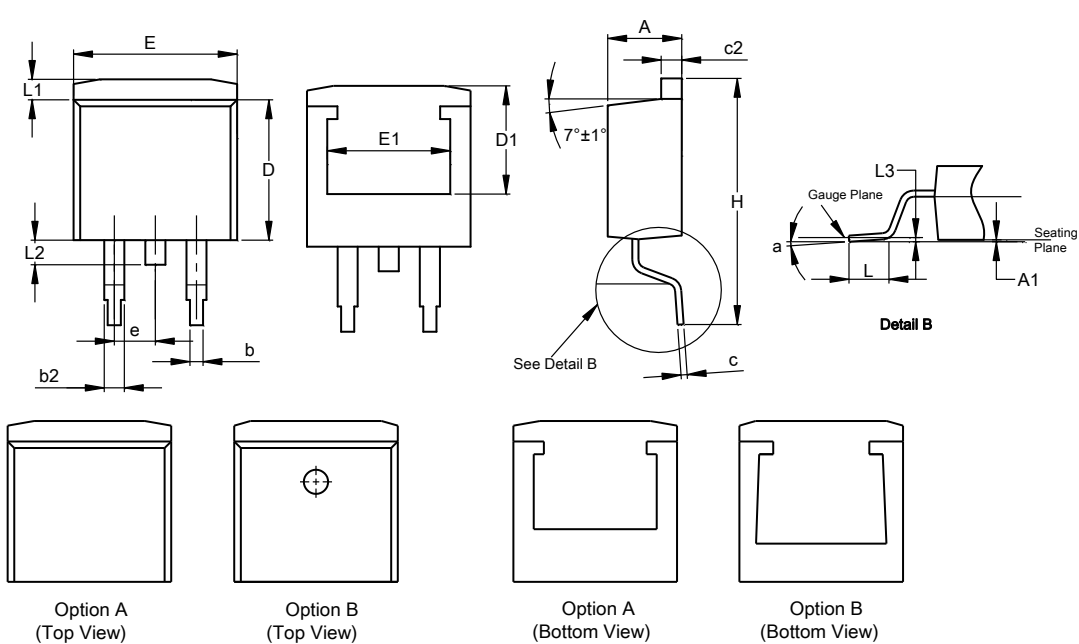
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**Package Outline Dimensions**

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

**TO263AB (Standard)**

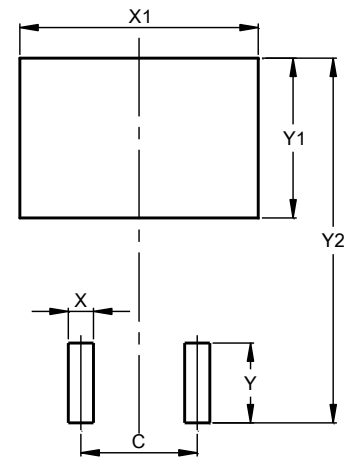


| TO263AB (Standard)          |          |       |       |
|-----------------------------|----------|-------|-------|
| Dim                         | Min      | Max   | Typ   |
| A                           | 4.07     | 4.82  | -     |
| A1                          | 0.00     | 0.25  | -     |
| b                           | 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°    | -     |
| <b>All Dimensions in mm</b> |          |       |       |

**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         |

NEW PRODUCT

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