

## 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                  | 10                 | 0.80                              | 100                                |

## 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:

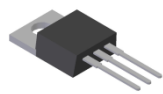
- DC-DC Converters
- AC-DC Adaptors

## Features

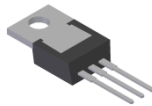
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

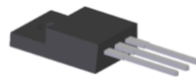
- Case: TO220AB (Generic), ITO220AB (Type HE)
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 Ⓒ3
- Weight: TO220AB (Generic) - 1.85 grams (Approximate)  
ITO220AB (Type HE) - 1.69 grams (Approximate)



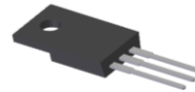
TO220AB (Generic)  
Top View



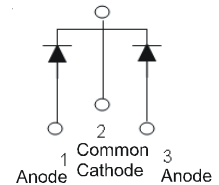
TO220AB (Generic)  
Bottom View



ITO220AB (Type HE)  
Top View



ITO220AB (Type HE)  
Bottom View



Package Pin Out  
Configuration

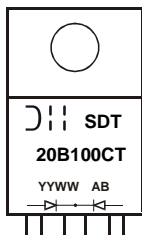
## Ordering Information (Note 4)

| Part Number   | Case               | Packaging      |
|---------------|--------------------|----------------|
| SDT20B100CT   | TO220AB (Generic)  | 50 Pieces/Tube |
| SDT20B100CTFP | ITO220AB (Type HE) | 50 Pieces/Tube |

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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/>.

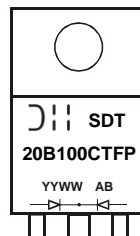
## Marking Information

TO220AB (Generic)



⏏ = Manufacturer's Marking  
SDT20B100CT = Product Type Marking Code  
AB = Foundry and Assembly Code  
YYWW = Date Code Marking  
YY = Last Two Digits of Year (ex: 17 = 2017)  
WW = Week (01 to 53)

ITO220AB (Type HE)



⏏ = Manufacturer's Marking  
SDT20B100CTFP = Product Type Marking Code  
AB = Foundry and Assembly Code  
YYWW = Date Code Marking  
YY = Last Two Digits of Year (ex: 17 = 2017)  
WW = Week (01 to 53)

**Maximum Ratings** (Per Leg) (@ $T_A = +25^\circ\text{C}$ , 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 per Device<br>(Per Leg)<br>(Total)                                 | $I_o$     | 10<br>20 | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 150      | A    |

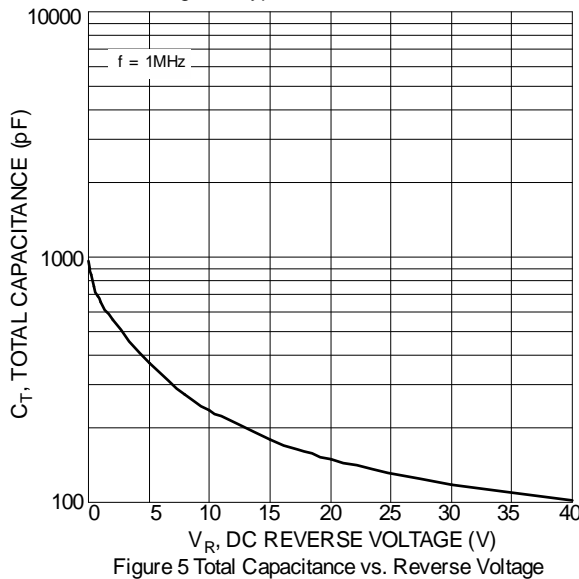
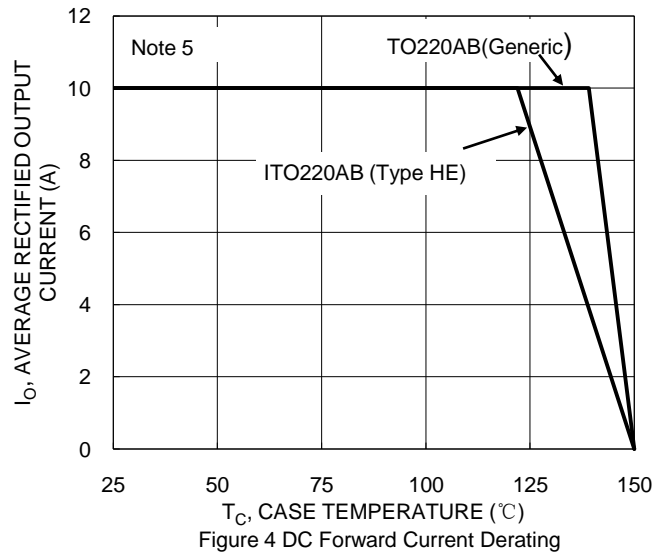
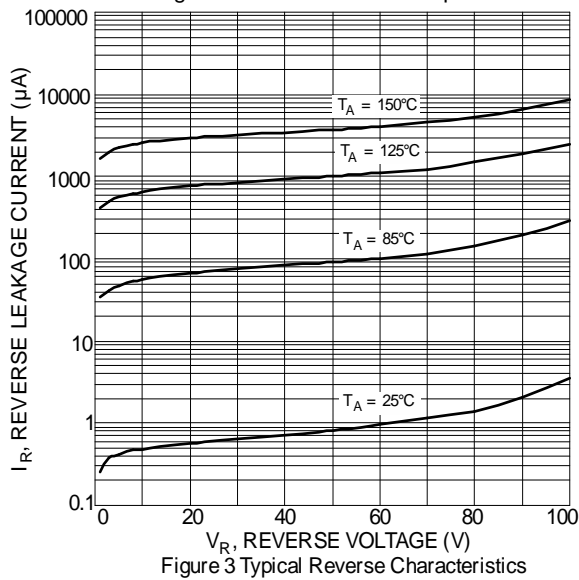
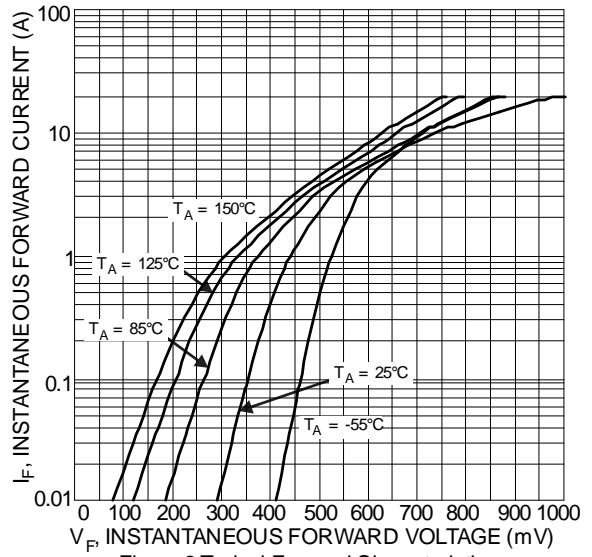
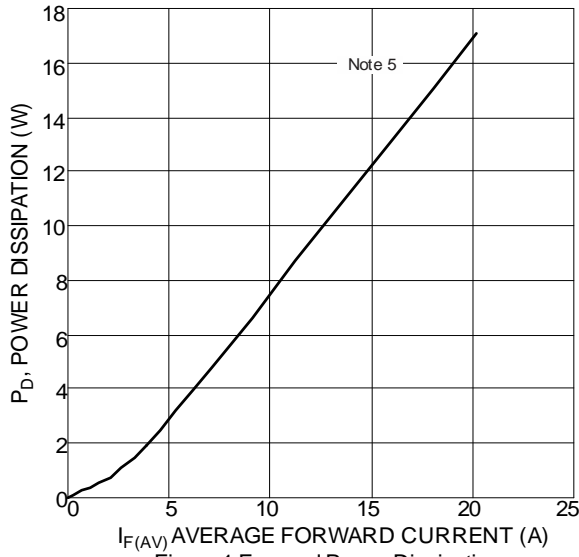
**Thermal Characteristics** (Per Leg)

| Characteristic   | Symbol          | Value       | Unit               |
|--|-----------------|-------------|--------------------|
| Typical Thermal Resistance (Note 5)<br>Package = TO220AB (Generic)<br>Package = ITO220AB (Type HE) | $R_{\theta JC}$ | 2<br>4      | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range  | $T_J, T_{STG}$  | -55 to +150 | $^\circ\text{C}$   |

**Electrical Characteristics** (Per Leg) (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

| Characteristic           | Symbol | Min | Typ  | Max  | Unit                | Test Condition                                |
|--------------------------|--------|-----|------|------|---------------------|---|
| Forward Voltage Drop     | $V_F$  | —   | 0.73 | 0.80 | V                   | $I_F = 10\text{A}, T_J = +25^\circ\text{C}$   |
|                          |        |     | 0.66 | 0.75 |                     | $I_F = 10\text{A}, T_J = +125^\circ\text{C}$  |
| Leakage Current (Note 6) | $I_R$  | —   | 4    | 100  | $\mu\text{A}$<br>mA | $V_R = 100\text{V}, T_J = +25^\circ\text{C}$  |
|                          |        |     | 3    | 15   |                     | $V_R = 100\text{V}, T_J = +125^\circ\text{C}$ |

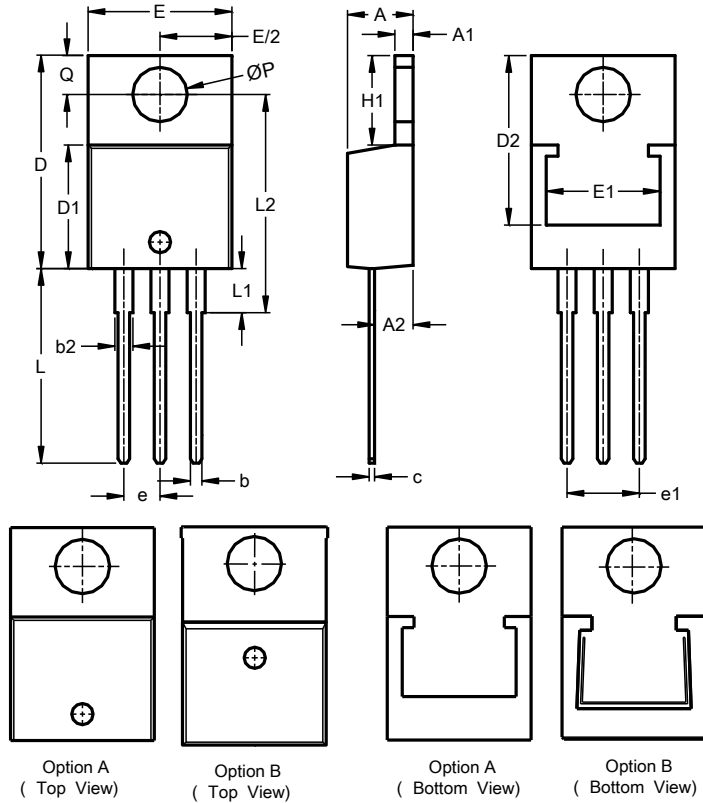
Notes: 5. With 50mm\*50mm\*23mm Al heatsink.  
6. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

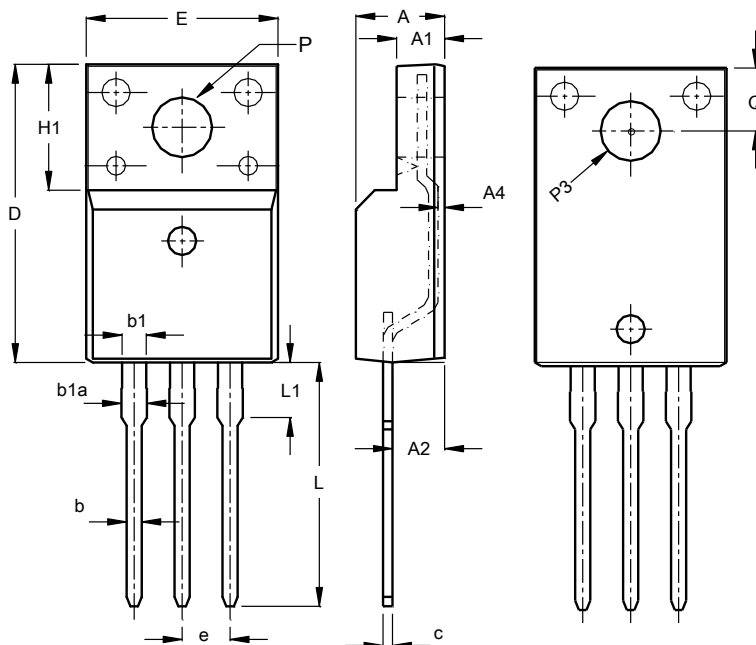
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### (1) Package Type: TO220AB (Generic)



| TO220AB (Generic)           |       |       |       |
|-----------------------------|-------|-------|-------|
| Dim                         | Min   | Max   | Typ   |
| A                           | 3.56  | 4.82  | -     |
| A1                          | 0.51  | 1.39  | -     |
| A2                          | 2.04  | 2.92  | -     |
| b                           | 0.39  | 1.01  | 0.81  |
| b2                          | 1.15  | 1.77  | 1.24  |
| c                           | 0.356 | 0.61  | -     |
| D                           | 14.22 | 16.51 | -     |
| D1                          | 8.39  | 9.01  | -     |
| D2                          | 11.45 | 12.87 | -     |
| e                           | -     | -     | 2.54  |
| e1                          | -     | -     | 5.08  |
| E                           | 9.66  | 10.66 | -     |
| E1                          | 6.86  | 8.89  | -     |
| H1                          | 5.85  | 6.85  | -     |
| L                           | 12.70 | 14.73 | -     |
| L1                          | -     | 4.42  | -     |
| L2                          | 15.80 | 17.51 | 16.00 |
| P                           | 3.54  | 4.08  | -     |
| Q                           | 2.54  | 3.42  | -     |
| <b>All Dimensions in mm</b> |       |       |       |

### (2) Package Type: ITO220AB (Type HE)



| ITO220AB (Type HE)          |          |       |       |
|-----------------------------|----------|-------|-------|
| Dim                         | Min      | Max   | Typ   |
| A                           | 4.50     | 4.90  | 4.70  |
| A1                          | 2.34     | 2.74  | 2.54  |
| A2                          | 2.56     | 2.96  | 2.76  |
| A4                          | 0.30     | 0.60  | 0.45  |
| b                           | 0.70     | 0.95  | 0.80  |
| b1                          | 1.18     | 1.43  | 1.28  |
| b1a                         | 1.25     | 1.55  | 1.35  |
| c                           | 0.45     | 0.60  | 0.50  |
| D                           | 15.57    | 16.17 | 15.87 |
| e                           | 2.54 BSC |       |       |
| E                           | 9.96     | 10.36 | 10.16 |
| H1                          | 6.70 REF |       |       |
| L                           | 12.68    | 13.28 | 12.98 |
| L1                          | 3.03     | 3.43  | 3.23  |
| Q                           | 3.15     | 3.45  | 3.30  |
| ØP                          | 3.03     | 3.38  | 3.18  |
| ØP3                         | 3.15     | 3.65  | 3.45  |
| <b>All Dimensions in mm</b> |          |       |       |

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