

## Product Summary (Per Leg)

| $V_{RRM}$ (V) | $I_O$ (A) | $V_F$ Max (V)<br>@ +25°C | $I_R$ Max (μA)<br>@ +25°C |
|---------------|-----------|--------------------------|---------------------------|
| 100           | 15        | 0.75                     | 100                       |

## Description and Applications

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

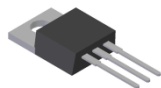
- DC-DC Converters
- AC-DC Adaptors

## Features

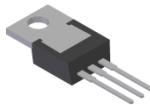
- Low Forward Voltage Drop
- Low Power Loss
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

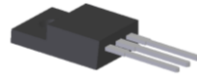
- Case: TO220AB, ITO220AB, ITO220AB (Type HE)
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 
- Weight: TO220AB - 1.85 grams (Approximate)  
ITO220AB - 1.69 grams (Approximate)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



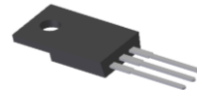
TO220AB  
Top View



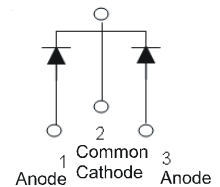
TO220AB  
Bottom View



ITO220AB,  
ITO220AB (Type HE)  
Top View



ITO220AB,  
ITO220AB (Type HE)  
Bottom View



Package Pin Out  
Configuration

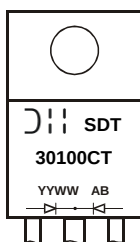
## Ordering Information (Note 4)

| Part Number    | Case                         | Packaging      |
|----------------|------------------------------|----------------|
| SDT30100CT     | TO220AB                      | 50 Pieces/Tube |
| SDT30100CTFP   | ITO220AB, ITO220AB (Type HE) | 50 Pieces/Tube |
| SDT30100CTFP-S | ITO220AB                     | 50 Pieces/Tube |
| SDT30100CTFP-H | 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 <http://www.diodes.com/products/packages.html>.

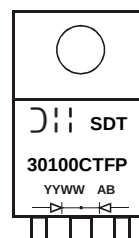
## Marking Information

TO220AB



 = Manufacturer's Marking  
 SDT30100CT = 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, ITO220AB (Type HE)



 = Manufacturer's Marking  
 SDT30100CTFP = 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<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<br>Working Peak Reverse Voltage<br>DC Blocking Voltage              | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>RM</sub> | 100      | V    |
| Average Rectified Output Current per Device (Per Leg)<br>(Total)                                    | I <sub>O</sub>                                          | 15<br>30 | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>                                        | 200      | A    |

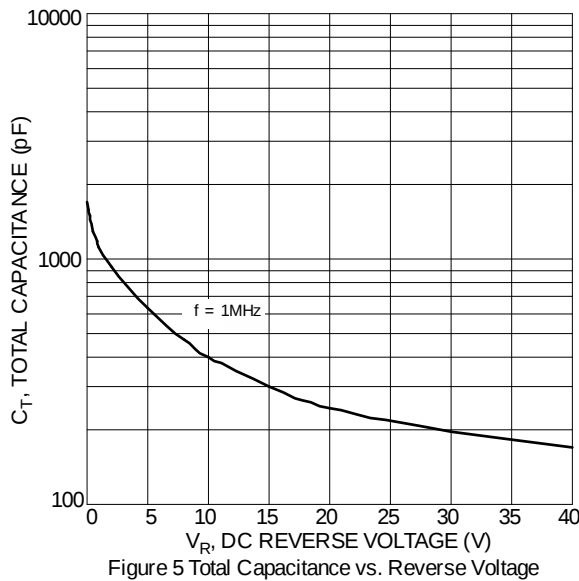
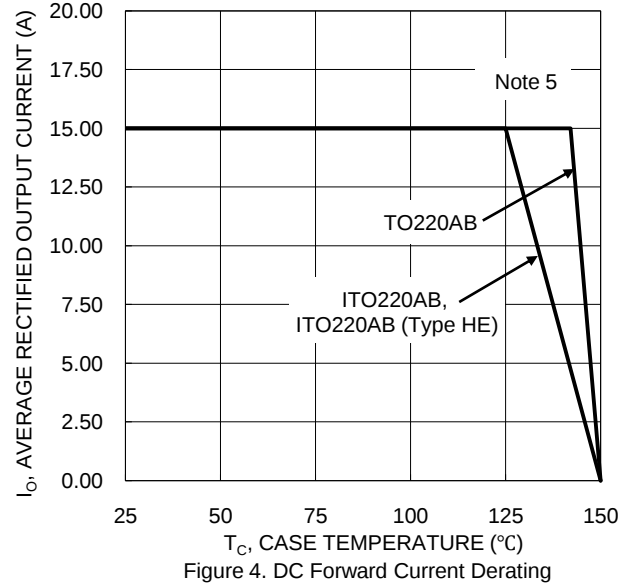
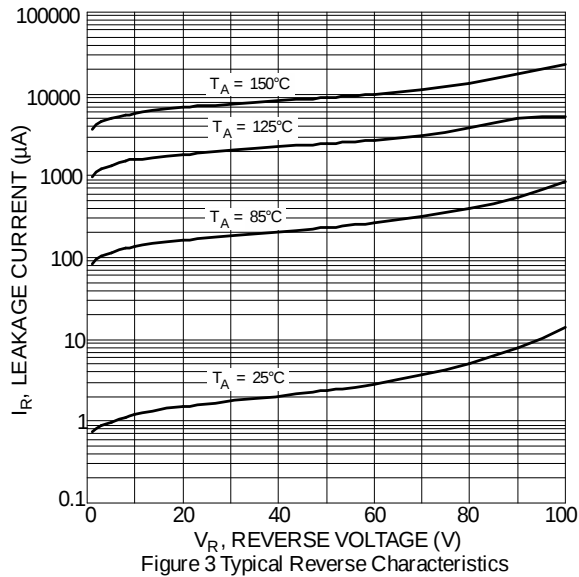
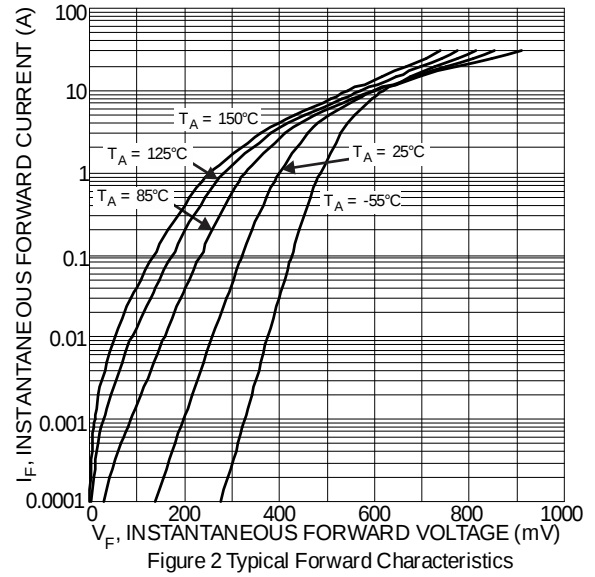
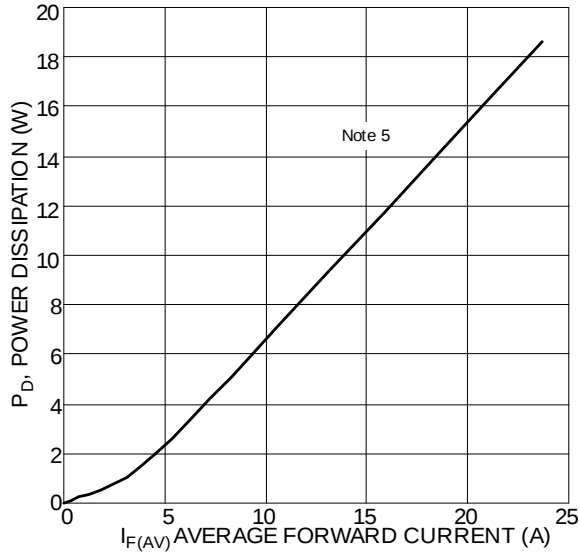
## Thermal Characteristics (Per Leg)

| Characteristic                                                                                     | Symbol                            | Value       | Unit |
|----------------------------------------------------------------------------------------------------|-----------------------------------|-------------|------|
| Typical Thermal Resistance (Note 5)<br>Package = TO220AB<br>Package = ITO220AB, ITO220AB (Type HE) | R <sub>θJC</sub>                  | 2<br>4      | °C/W |
| Operating and Storage Temperature Range                                                            | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 | °C   |

## 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> | —   | 0.51<br>0.70<br>0.65 | —<br>0.75<br>0.70 | V        | I <sub>F</sub> = 5A, T <sub>J</sub> = +25°C<br>I <sub>F</sub> = 15A, T <sub>J</sub> = +25°C<br>I <sub>F</sub> = 15A, T <sub>J</sub> = +125°C |
| Leakage Current (Note 6) | I <sub>R</sub> | —   | 8<br>5               | 100<br>20         | μA<br>mA | V <sub>R</sub> = 100V, T <sub>J</sub> = +25°C<br>V <sub>R</sub> = 100V, T <sub>J</sub> = +125°C                                              |

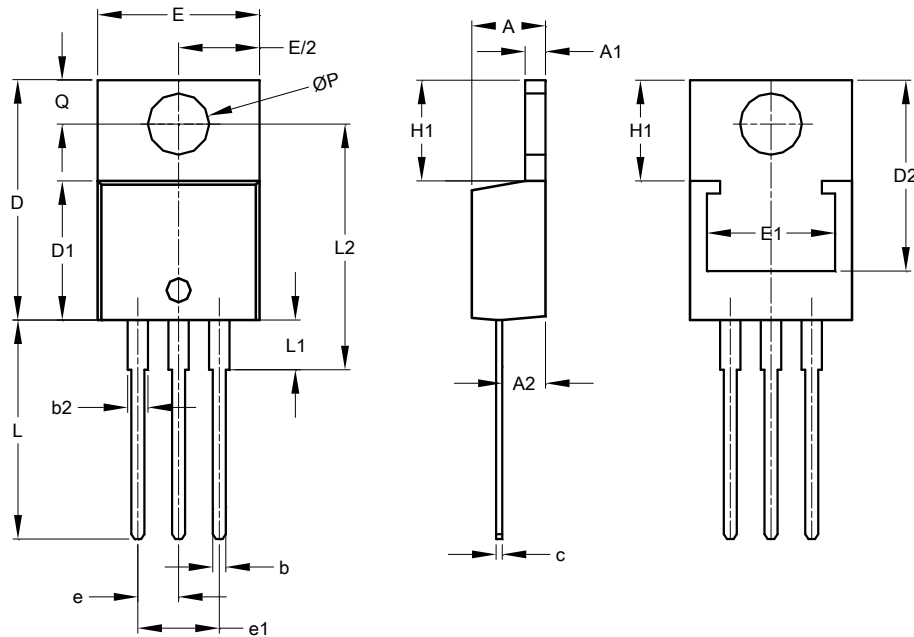
Notes: 5. With 50mm\*50mm\*23mm Al heatsink.  
6. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

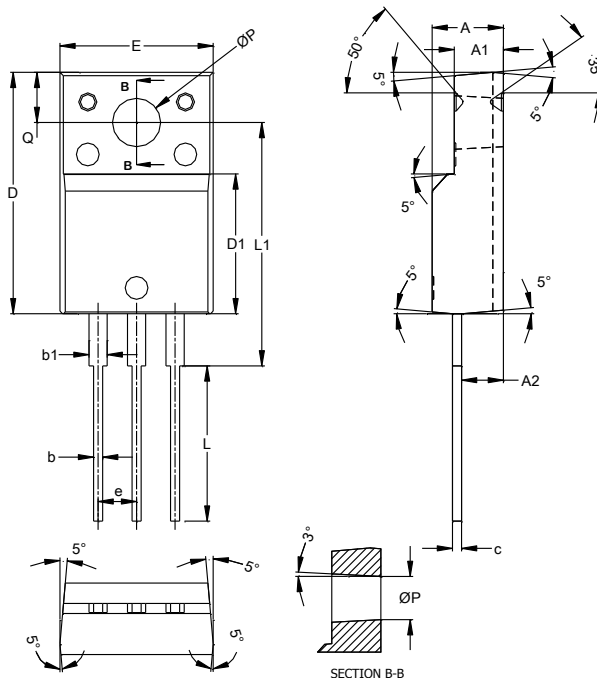
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### (1) Package Type: TO220AB



| TO220AB              |       |       |       |
|----------------------|-------|-------|-------|
| 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  | —     |
| All Dimensions in mm |       |       |       |

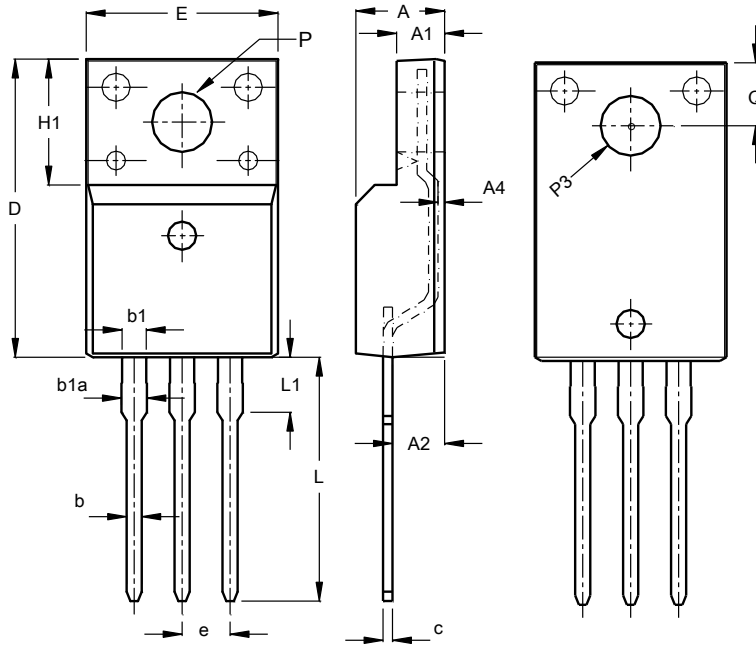
### (2) Package Type: ITO220AB



| ITO220AB             |       |       |       |
|----------------------|-------|-------|-------|
| Dim                  | Min   | Max   | Typ   |
| A                    | 4.50  | 4.90  | 4.70  |
| A1                   | 3.04  | 3.44  | 3.24  |
| A2                   | 2.56  | 2.96  | 2.76  |
| b                    | 0.50  | 0.75  | 0.60  |
| b1                   | 1.10  | 1.35  | 1.20  |
| c                    | 0.50  | 0.70  | 0.60  |
| D                    | 15.67 | 16.07 | 15.87 |
| D1                   | 8.99  | 9.39  | 9.19  |
| E                    | 9.91  | 10.31 | 10.11 |
| e                    | —     | —     | 2.54  |
| L                    | 9.45  | 10.05 | 9.75  |
| L1                   | 15.80 | 16.20 | 16.00 |
| P                    | 2.98  | 3.38  | 3.18  |
| Q                    | 3.10  | 3.50  | 3.30  |
| All Dimensions in mm |       |       |       |

**Package Outline Dimensions (Cont.)**

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

**(3) 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  |
| All Dimensions in mm |          |       |       |

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