

Product Summary (Per Leg)

| V_{RRM} (V) | I_o (A) | V_F Max (V) @ +25°C | I_R Max (μ A) @ +25°C |
|---------------|-----------|--------------------------|---------------------------------|
| 100 | 15 | 0.73 | 100 |

Description and Applications

The SDT30A100CT/SDT30A100CTFP 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:

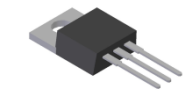
- DC-DC Converters
- AC-DC Adaptors

Features

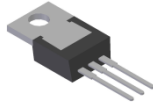
- Low Forward Voltage Drop
- Low Power Loss
- Excellent High Temperature Stability
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

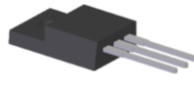
- Case: TO220AB (Generic), ITO220AB (Type HE)
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 Ⓔ3
- Weight: TO220AB (Generic) - 1.85 grams (Approximate)
ITO220AB (Type HE)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



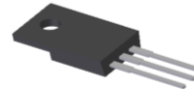
TO220AB (Generic)
Top View



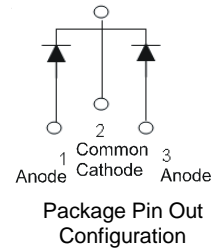
TO220AB (Generic)
Bottom View



ITO220AB (Type HE)
Top View



ITO220AB (Type HE)
Bottom View



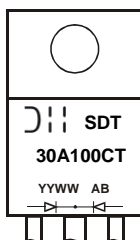
Ordering Information (Note 4)

| Part Number | Case | Packaging |
|---------------|--------------------|----------------|
| SDT30A100CT | TO220AB (Generic) | 50 Pieces/Tube |
| SDT30A100CTFP | 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 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/>.

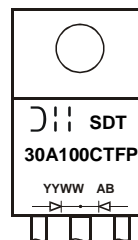
Marking Information

TO220AB (Generic)



⌋⌋⌋ = Manufacturer's Marking
 SDT30A100CT = 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
 SDT30A100CTFP = 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 (Per Leg) (Total) | I_o | 15 30 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I_{FSM} | 200 | A |

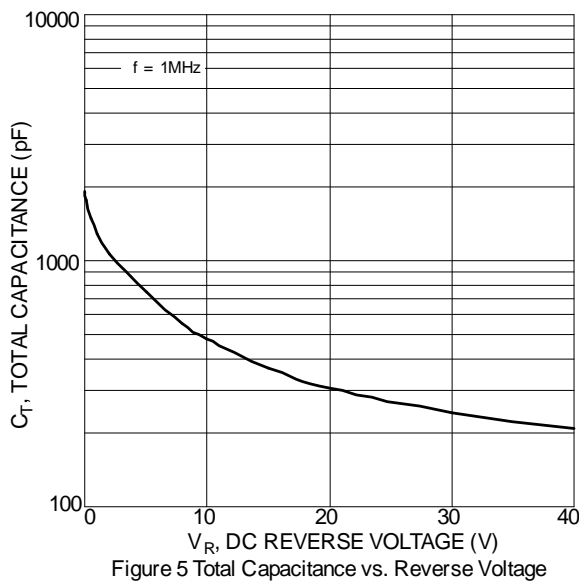
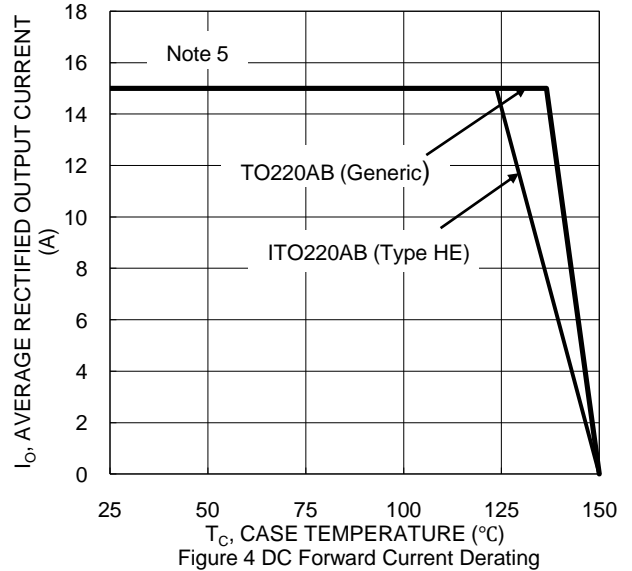
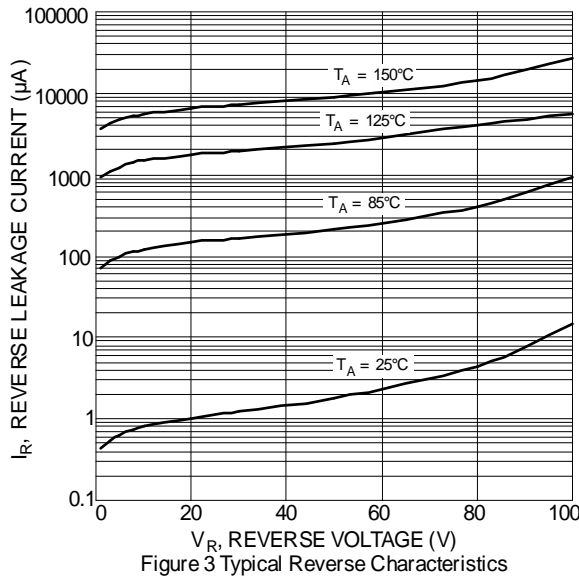
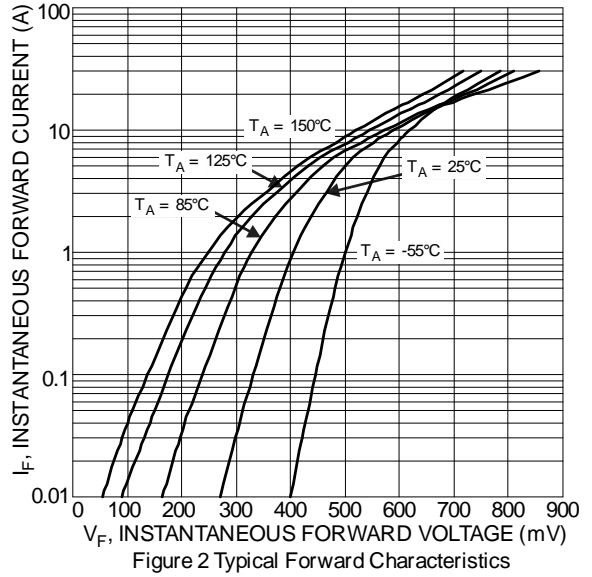
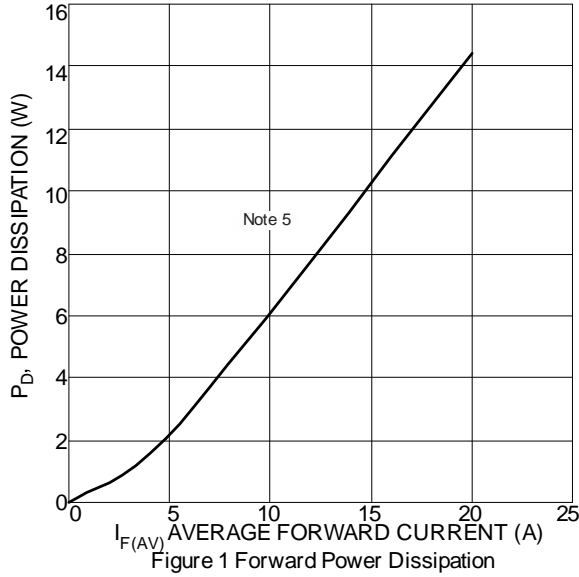
Thermal Characteristics (Per Leg)

| Characteristic | Symbol | Value | Unit |
|--|-----------------|-------------|--------------------|
| Typical Thermal Resistance (Note 5) Package = TO220AB (Generic) Package = ITO220AB (Type HE) | $R_{\theta JC}$ | 2 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 | — | 0.67 | 0.73 | V | $I_F = 15\text{A}, T_J = +25^\circ\text{C}$ |
| | | | 0.62 | 0.68 | | $I_F = 15\text{A}, T_J = +125^\circ\text{C}$ |
| Leakage Current (Note 6) | I_R | — | 10 | 100 | μA mA | $V_R = 100\text{V}, T_J = +25^\circ\text{C}$ |
| | | | 6 | 20 | | $V_R = 100\text{V}, T_J = +125^\circ\text{C}$ |

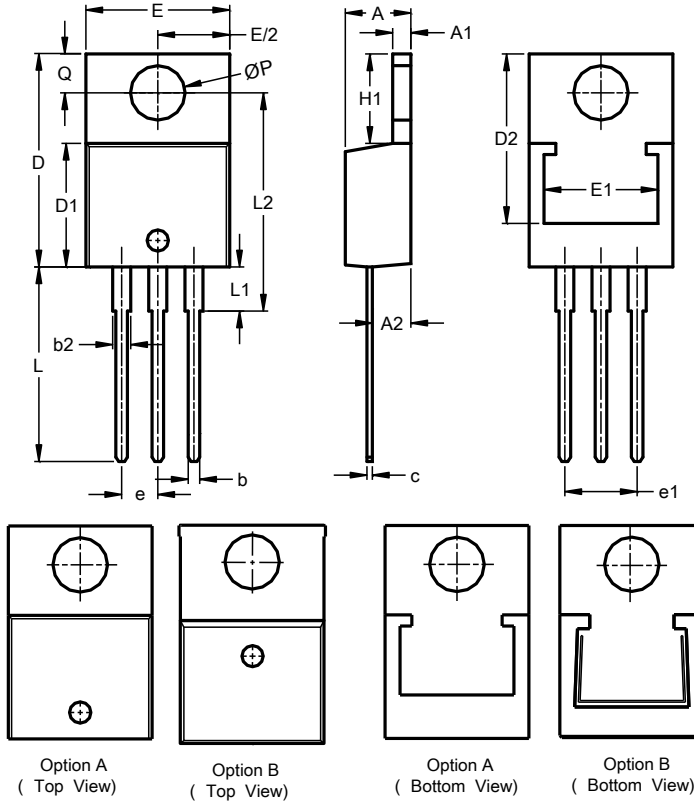
Notes: 5. With 50mm x 50mm x 23mm Al heatsink.
6. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

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

TO220AB (Generic)

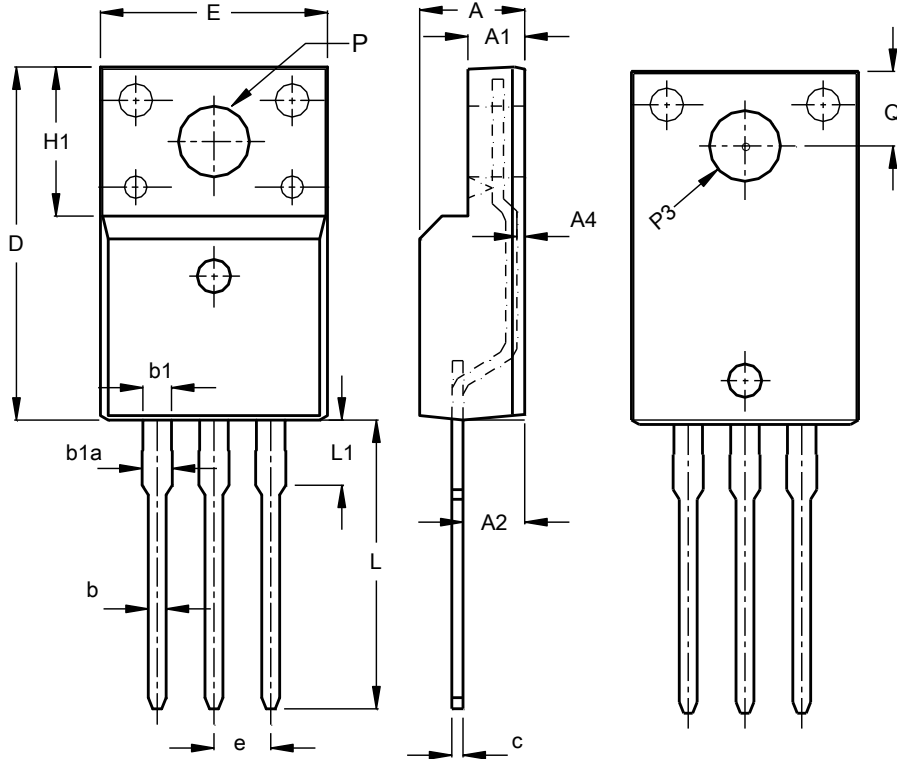


| TO220AB (Generic) | | | |
|----------------------|-------|-------|-------|
| Dim | Min | Max | Typ |
| A | 3.56 | 4.82 | - |
| A1 | 0.51 | 1.39 | - |
| A2 | 2.04 | 2.92 | - |
| b | 0.39 | 1.01 | 0.81 |
| b2 | 1.15 | 1.77 | 1.24 |
| c | 0.356 | 0.61 | - |
| D | 14.22 | 16.51 | - |
| D1 | 8.39 | 9.01 | - |
| 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 | - |
| All Dimensions in mm | | | |

Package Outline Dimensions (Continued)

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

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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