

NEW PRODUCT

Product Summary (Per Leg)

V _{RRM} (V)	I _O (A)	V _F Max (V) @ +25°C	I _R Max (μA) @ +25°C
100	5	0.76	50

Description and Applications

The SDT10100CT, SDT10100CTFP 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:

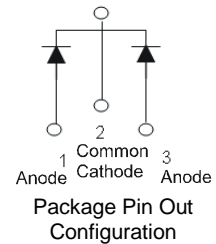
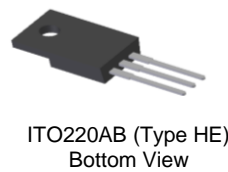
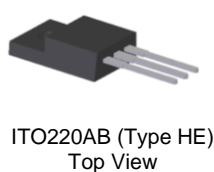
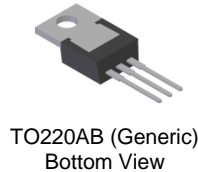
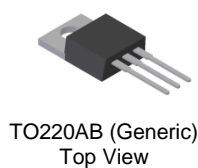
- DC-DC Converters
- AC-DC Adaptors

Features

- Low Forward Voltage Drop
- 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) – 1.65 grams (Approximate)

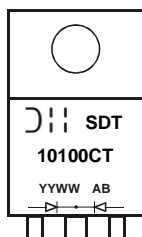


Ordering Information (Note 4)

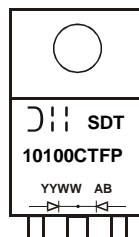
Part Number	Case	Packaging
SDT10100CT	TO220AB (Generic)	50 Pieces/Tube
SDT10100CTFP	ITO220AB (Type HE)	50 Pieces/Tube

- 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



SDT10100CT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 18 = 2018)
WW = Week (01 to 53)



SDT10100CTFP = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 18 = 2018)
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 per Device (Per Leg) (Total)	I _O	5 10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	90	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 5) Package = TO220AB (Generic) Package = ITO220AB (Type HE)	R _{θJC}	2 4	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	0.68	0.76	V	I _F = 5A, T _J = +25°C
		—	0.62	0.68		I _F = 5A, T _J = +125°C
Leakage Current (Note 6)	I _R	—	2	50	μA mA	V _R = 100V, T _J = +25°C
		—	2	10		V _R = 100V, T _J = +125°C

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

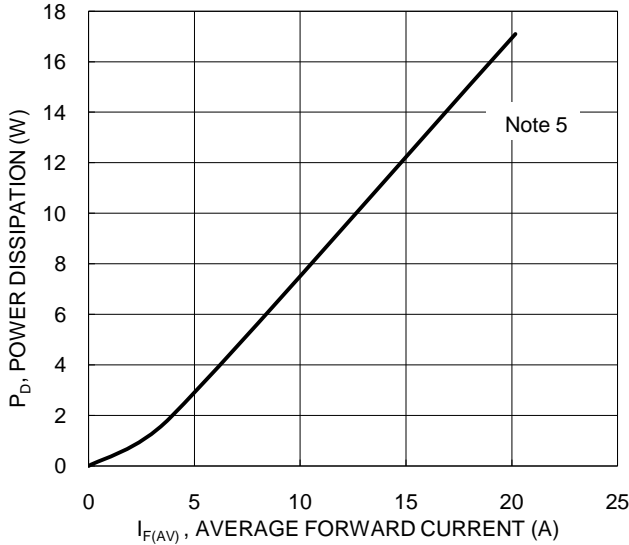


Figure 1 Forward Power Dissipation

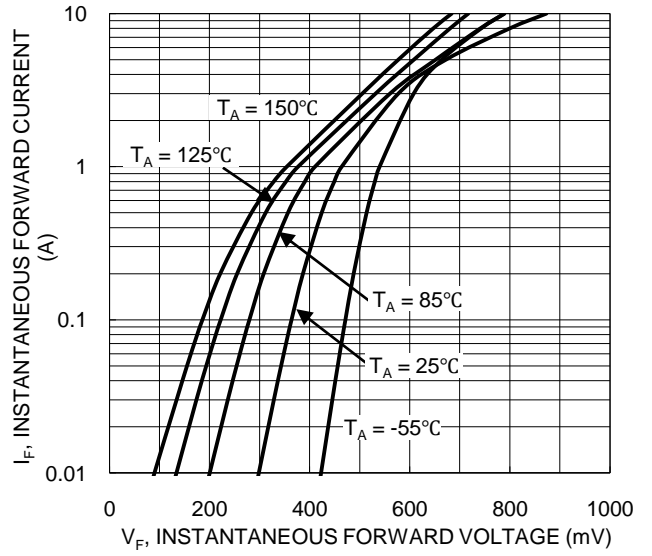


Figure 2 Typical Forward Characteristics

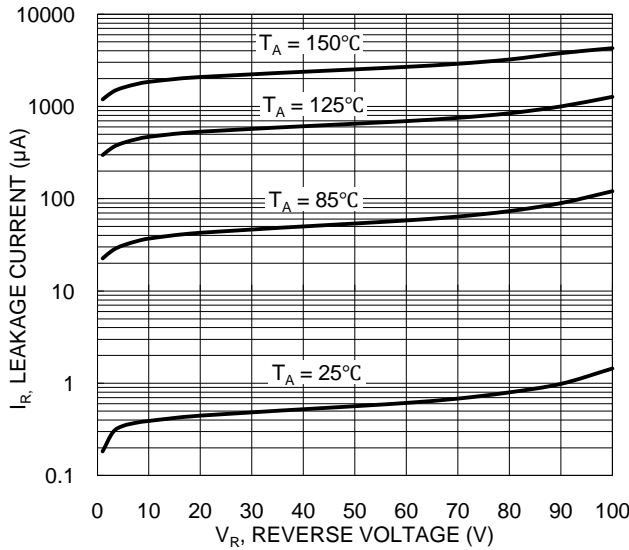


Figure 3 Typical Reverse Characteristics

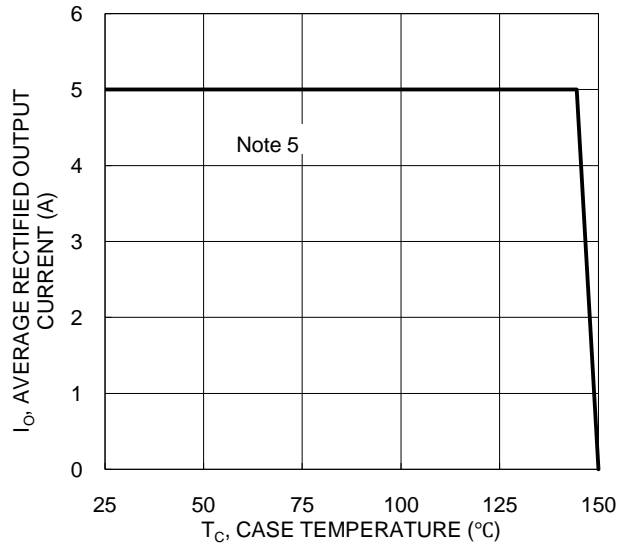


Figure 4 DC Forward Current Derating

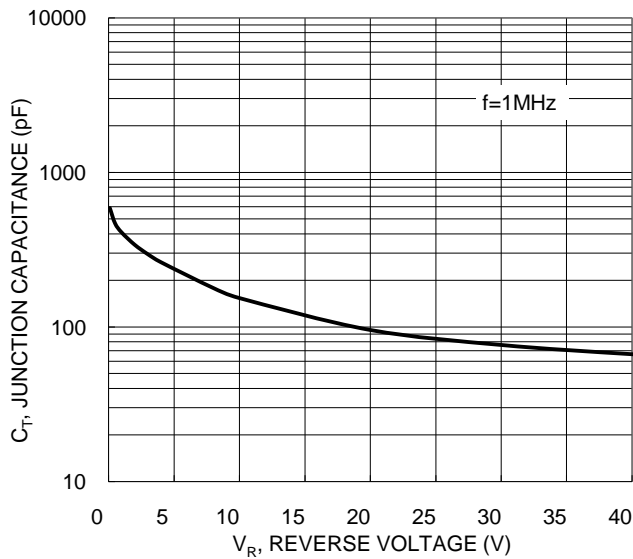
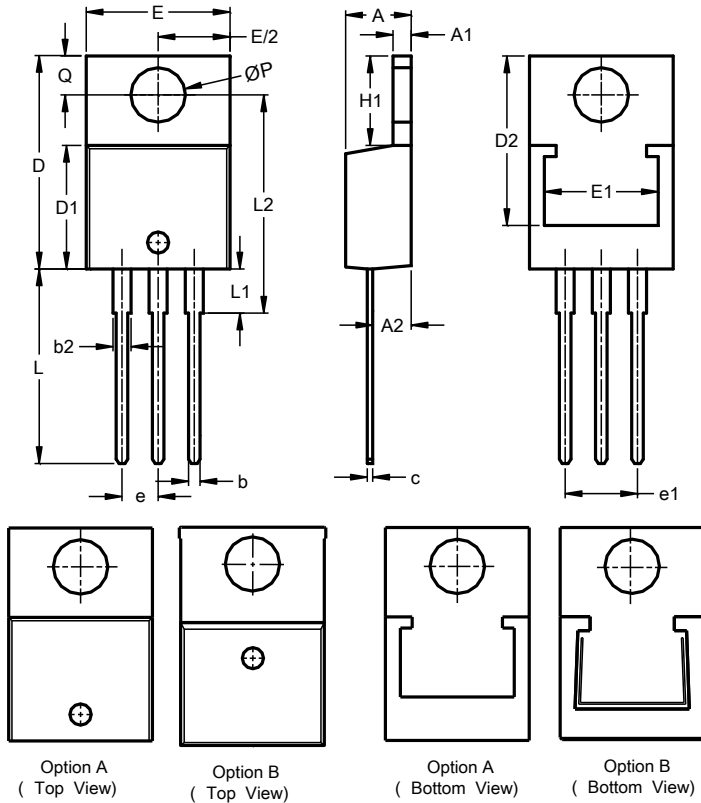


Figure 5 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

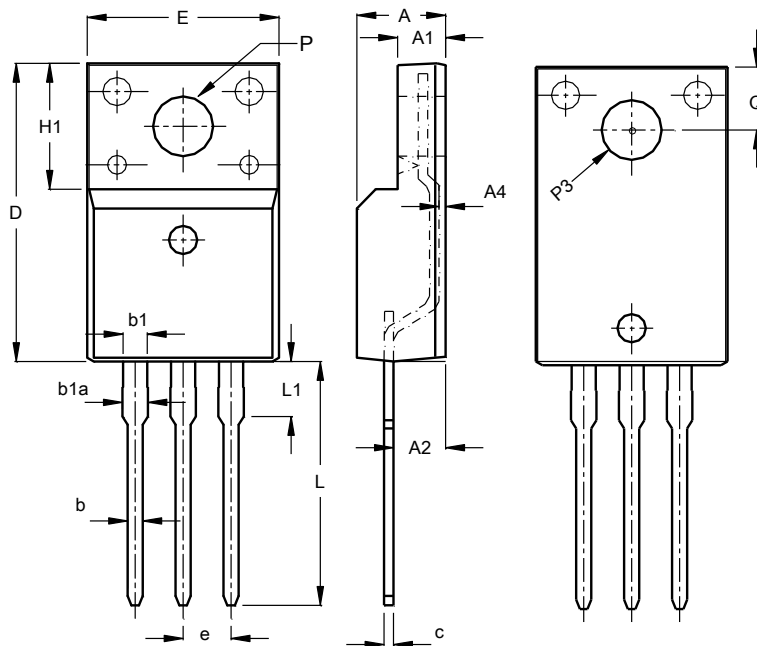
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

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	-
All Dimensions in mm			

(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
All Dimensions in mm			

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