

**Product Summary** (Per Leg)

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F</sub> Max (V) @ +25°C	I <sub>r</sub> Max (μA) @ +25°C
120	10	0.88	80

**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-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative.**

<https://www.diodes.com/quality/product-definitions/>

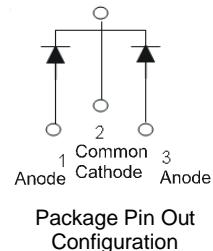
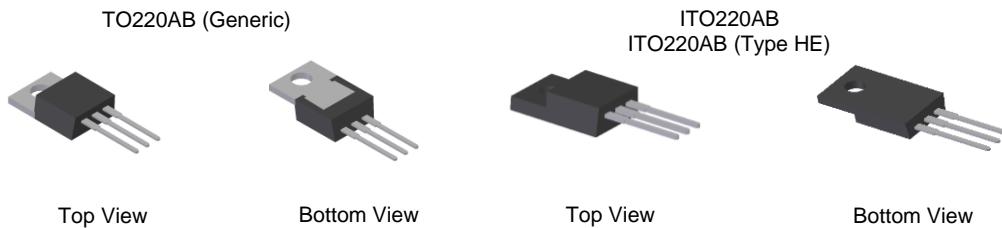
**Description and Applications**

The Trench Schottky rectifier 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**

- Package: TO220AB, ITO220AB
- Package Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Weight: TO220AB (Generic) - 1.85 grams (Approximate)  
ITO220AB - 1.90 grams (Approximate)  
ITO220AB (Type HE) - 1.90 grams (Approximate)


**Ordering Information** (Note 4)

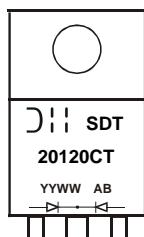
Part Number	Package	Packing	
		Qty.	Carrier
SDT20120CT	TO220AB (Generic)	50 Pieces	Tube
SDT20120CTFP	ITO220AB	50 Pieces	Tube
SDT20120CTFP	ITO220AB (Type HE)	50 Pieces	Tube

Notes:

- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
- 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.
- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

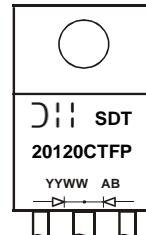
**Marking Information**

TO220AB (Generic)



D11 = Manufacturer's Marking  
 SDT20120CT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 22 = 2022)  
 WW = Week (01 to 53)

ITO220AB, ITO220AB (Type HE)



D11 = Manufacturer's Marking  
 SDT20120CTFP = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 22 = 2022)  
 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	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	120	V
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current per Device (Per Leg) (Total)	$I_o$	10 20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	120	A

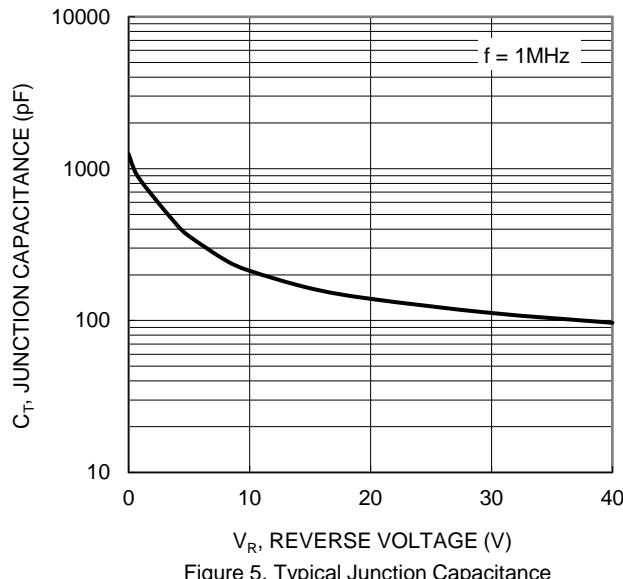
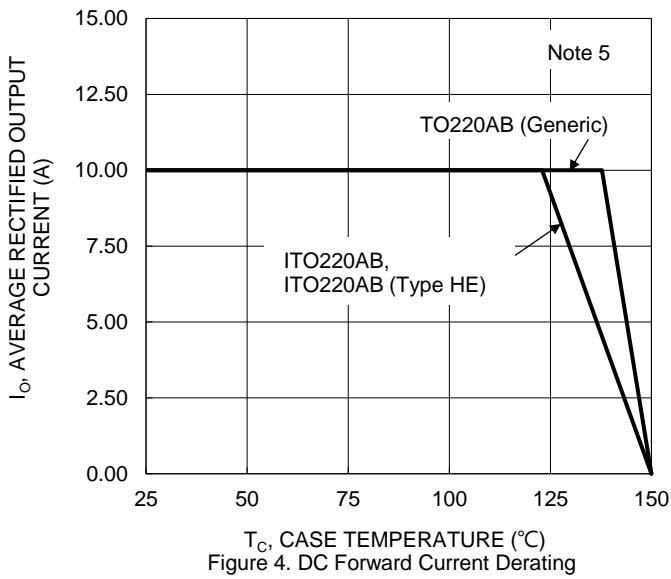
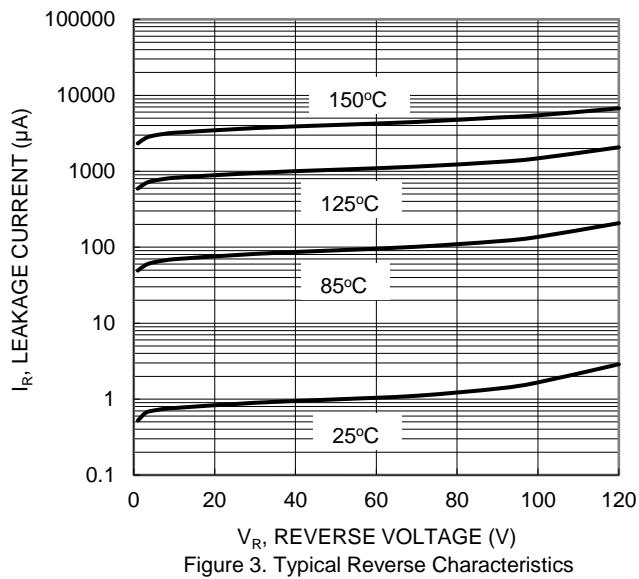
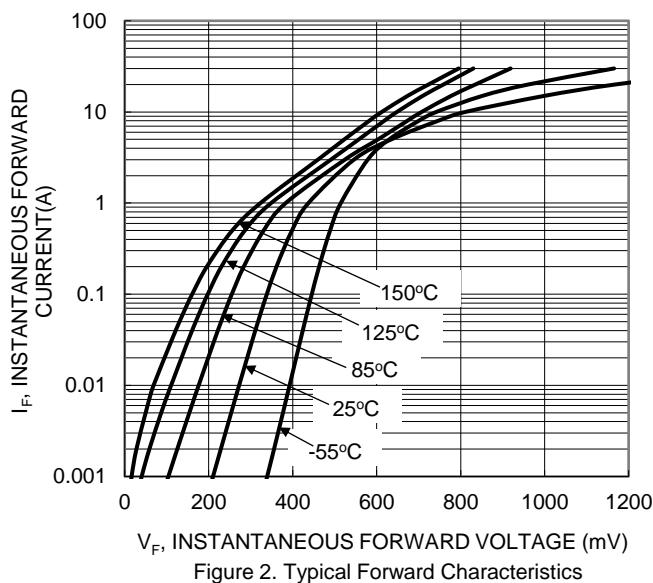
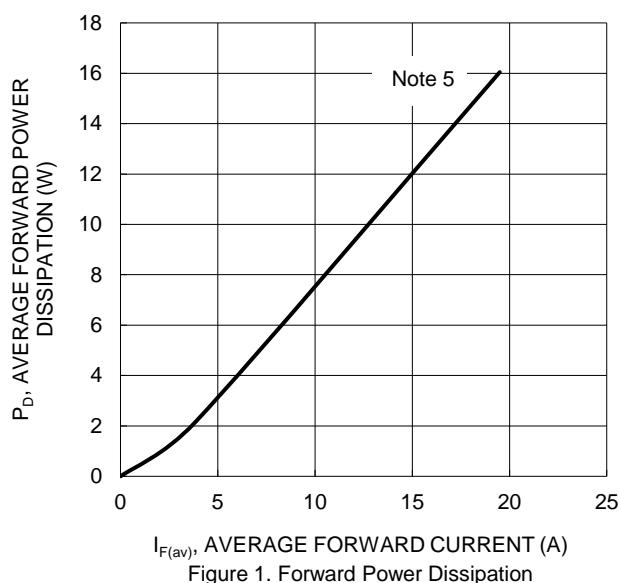
**Thermal Characteristics** (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 5)			
Package = TO220AB (Generic)	$R_{\theta JC}$	2	
Package = ITO220AB		4	°C/W
Package = ITO220AB (Type HE)		4	
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°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	$V_F$	— — —	0.63 0.82 0.65	— 0.88 0.71	V	$I_F = 5\text{A}, T_J = +25^\circ\text{C}$ $I_F = 10\text{A}, T_J = +25^\circ\text{C}$ $I_F = 10\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	— —	3 2	80 20	$\mu\text{A}$ mA	$V_R = 120\text{V}, T_J = +25^\circ\text{C}$ $V_R = 120\text{V}, T_J = +125^\circ\text{C}$

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

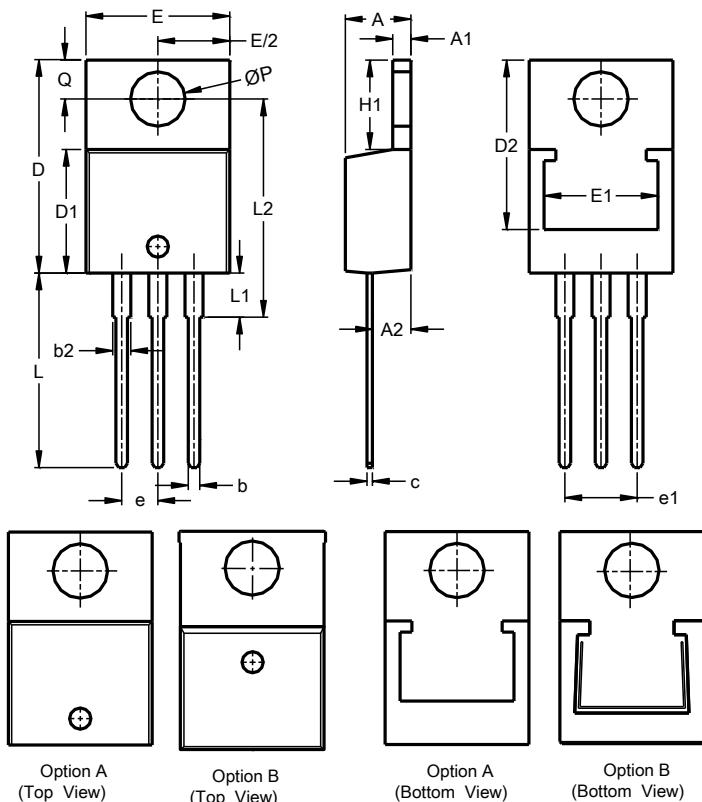


## Package Outline Dimensions

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

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

TO220AB (Generic)



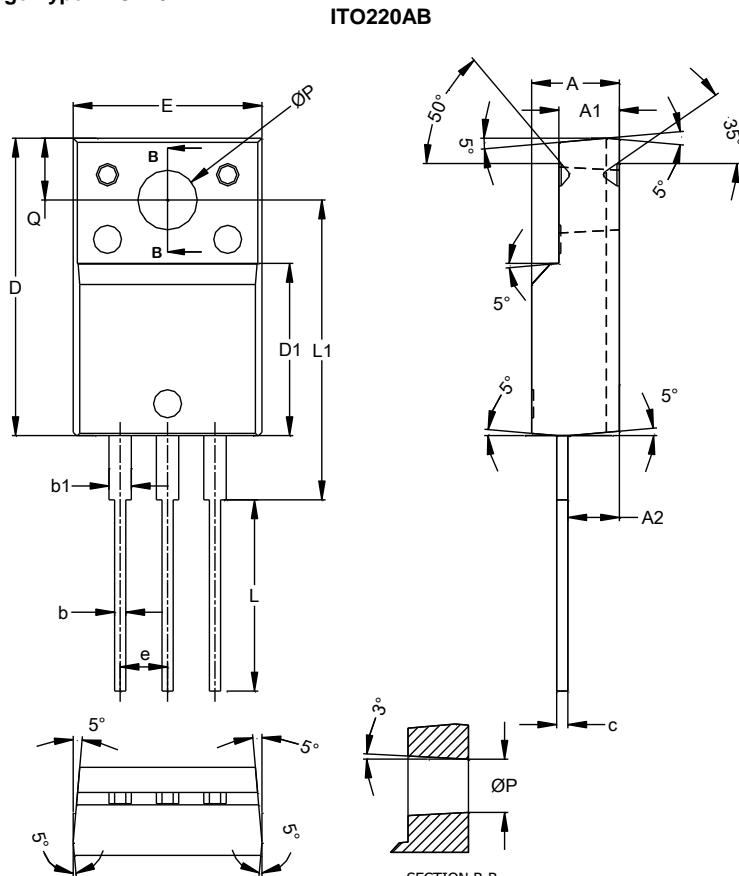
TO220AB (Generic)			
Dim	Min	Max	Typ
<b>A</b>	3.56	4.82	-
<b>A1</b>	0.51	1.39	-
<b>A2</b>	2.04	2.92	-
<b>b</b>	0.39	1.01	0.81
<b>b2</b>	1.15	1.77	1.24
<b>c</b>	0.356	0.61	-
<b>D</b>	14.22	16.51	-
<b>D1</b>	8.39	9.01	-
<b>D2</b>	11.45	12.87	-
<b>e</b>	-	-	2.54
<b>e1</b>	-	-	5.08
<b>E</b>	9.66	10.66	-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

### (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

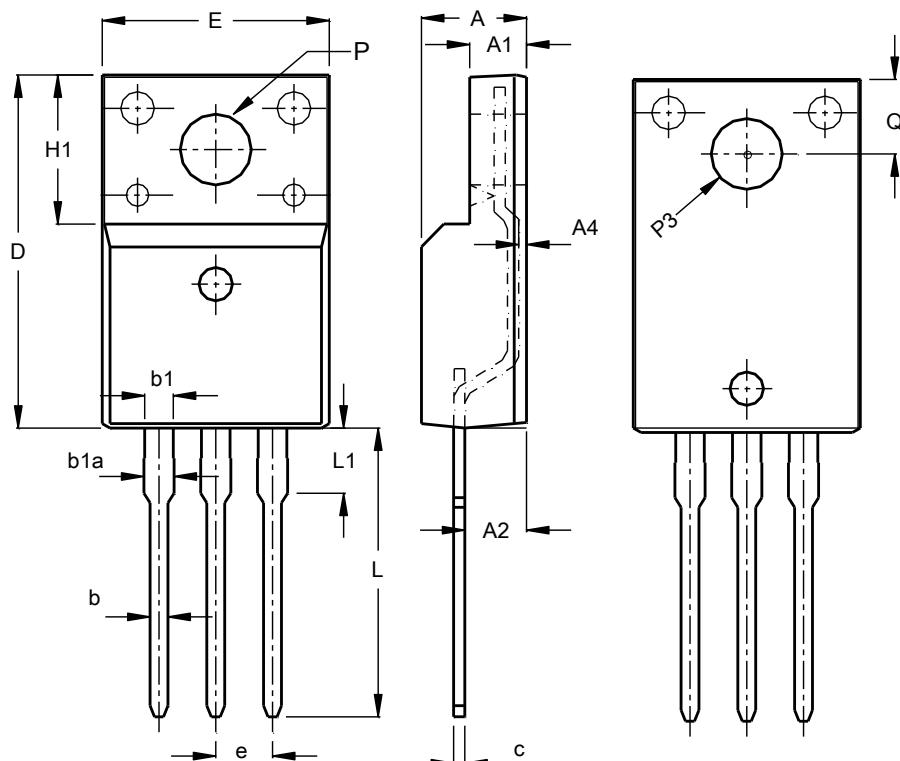
All Dimensions in mm

**Package Outline Dimensions** (continued)

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

**(3) Package Type: ITO220AB (Type HE)**

ITO220AB (Type HE)



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

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