

Product Summary (Per Leg)

V _{RRM} (V)	I _o (A)	V _F Max (V) @ +25°C	I _R Max (mA) @ +25°C
60	10	0.57	0.2

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 SDT20A60VCT, SDT20A60VCTFP 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

Mechanical Data

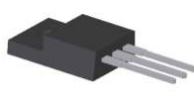
- Package: TO220AB, ITO220AB
- Package Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 Ⓔ3
- Weight: TO220AB (Generic) – 1.85 grams (Approximate)
ITO220AB – 1.65 grams (Approximate)
ITO220AB (Type HE) – 1.65 grams (Approximate)



TO220AB (Generic)
Top View



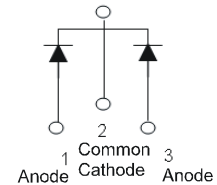
TO220AB (Generic)
Bottom View



ITO220AB
ITO220AB (Type HE)
Top View



ITO220AB
ITO220AB (Type HE)
Bottom View



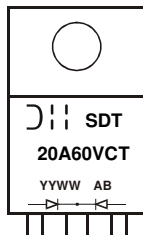
Package Pin Out
Configuration

Ordering Information (Note 4)

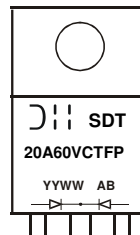
Part Number	Package	Packing	
		Qty.	Carrier
SDT20A60VCT	TO220AB (Generic)	50 Pieces	Tube
SDT20A60VCTFP	ITO220AB	50 Pieces	Tube
SDT20A60VCTFP	ITO220AB (Type HE)	50 Pieces	Tube

- 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



⌋|| = Manufacturer's Marking
SDT20A60VCT = 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)



⌋|| = Manufacturer's Marking
SDT20A60VCTFP = 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°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}	60	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current per Device	I _O	(Per Leg) 10	A
		(Total) 20	
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)	R _{θJC}	Package = TO220AB (Generic)	2
		Package = ITO220AB	4
		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°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	0.49	0.57	V	I _F = 10A, T _J = +25°C
		—	0.41	0.47		I _F = 10A, T _J = +125°C
Leakage Current (Note 6)	I _R	—	0.02	0.2	mA	V _R = 60V, T _J = +25°C
		—	10	50		V _R = 60V, T _J = +125°C

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

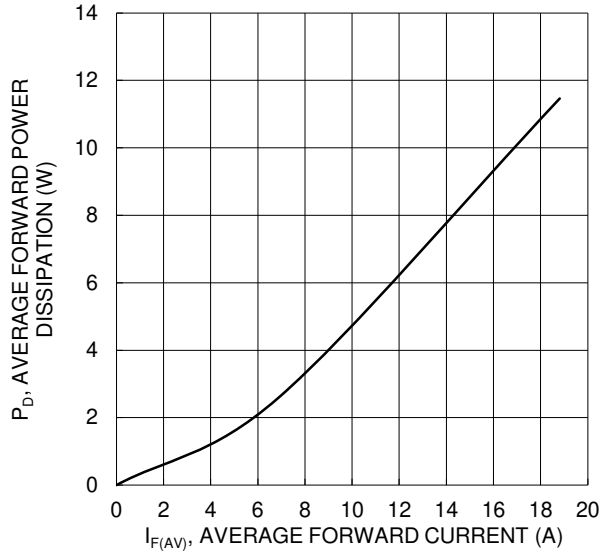


Figure 1. Forward Power Dissipation

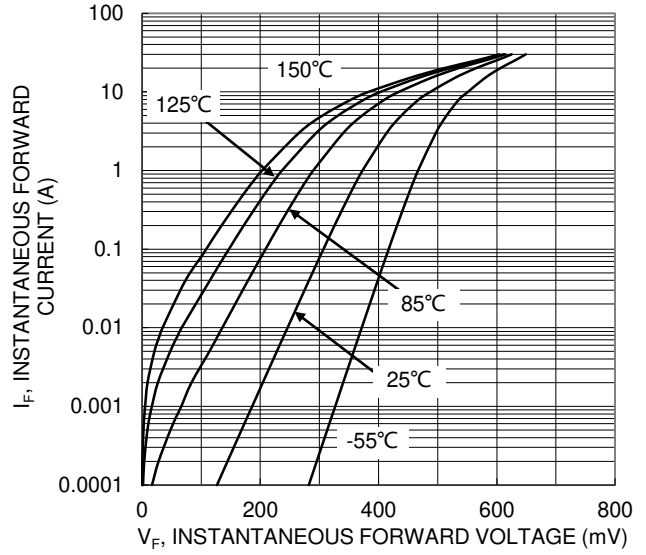


Figure 2. Typical Forward Characteristics

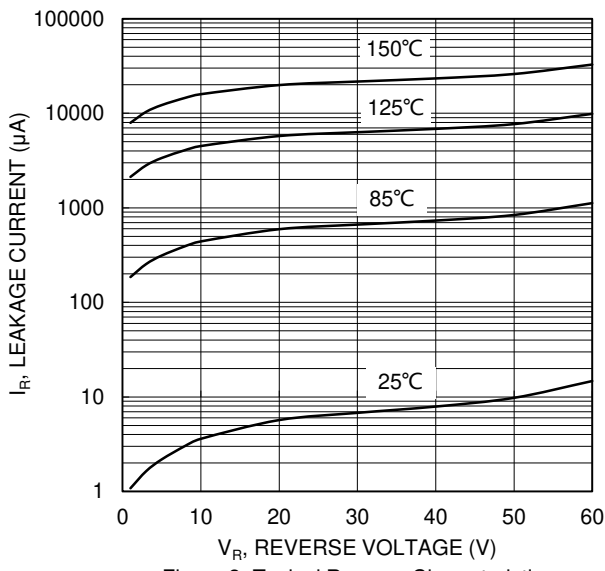


Figure 3. Typical Reverse Characteristics

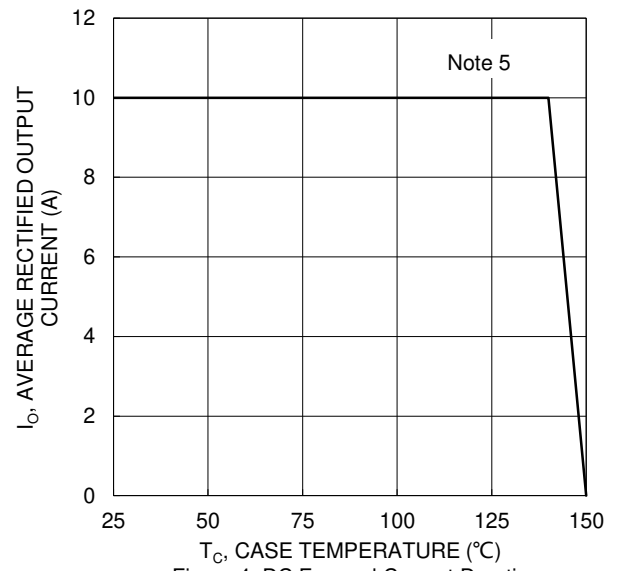


Figure 4. DC Forward Current Derating

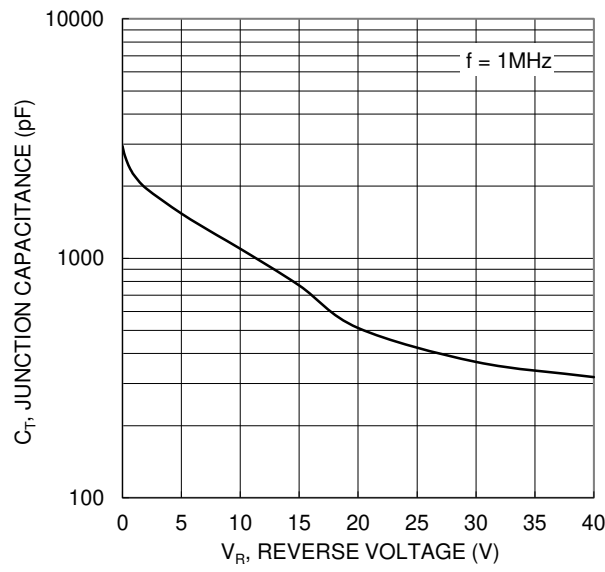


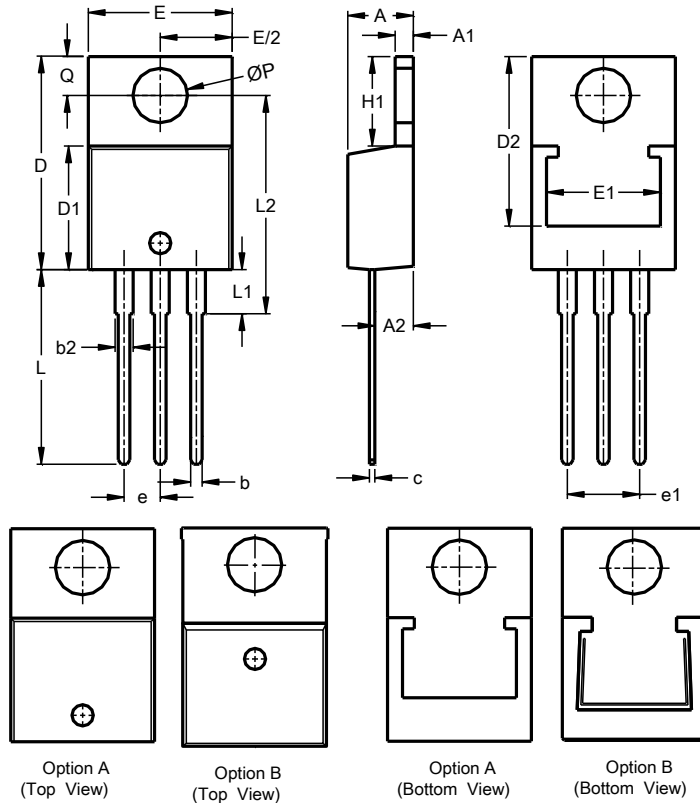
Figure 5. Typical Junction Capacitance

Note: 5. With 50mm*50mm*23mm Al heatsink.

Package Outline Dimensions

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

(1) Package Type: TO220AB (Generic)

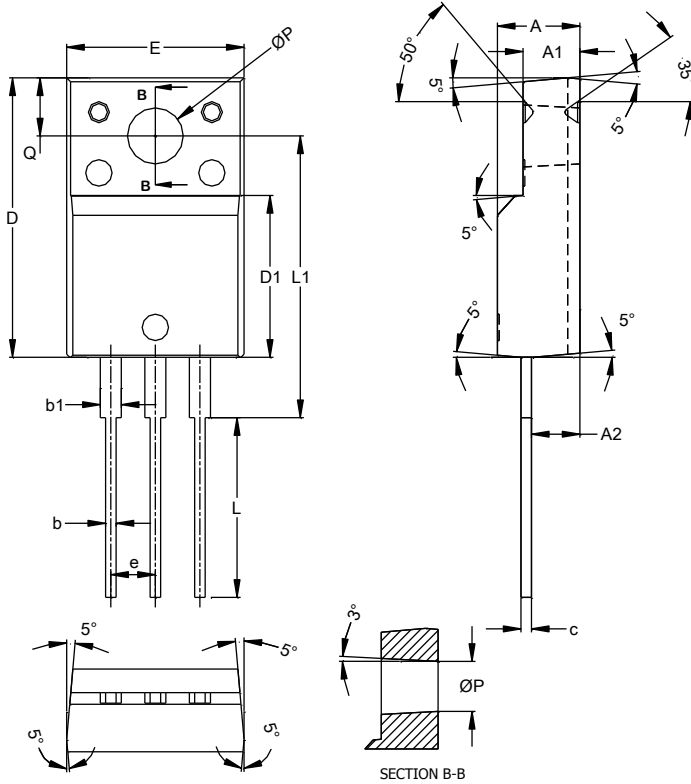


TO220AB (Generic)			
Dim	Min	Max	Typ
A	3.56	4.82	-
A1	0.51	1.39	-
A2	2.04	2.92	-
b	0.39	1.01	0.81
b2	1.15	1.77	1.24
c	0.356	0.61	-
D	14.22	16.51	-
D1	8.39	9.01	-
D2	11.45	12.87	-
e	-	-	2.54
e1	-	-	5.08
E	9.66	10.66	-
E1	6.86	8.89	-
H1	5.85	6.85	-
L	12.70	14.73	-
L1	-	4.42	-
L2	15.80	17.51	16.00
P	3.54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

Package Outline Dimensions (continued)

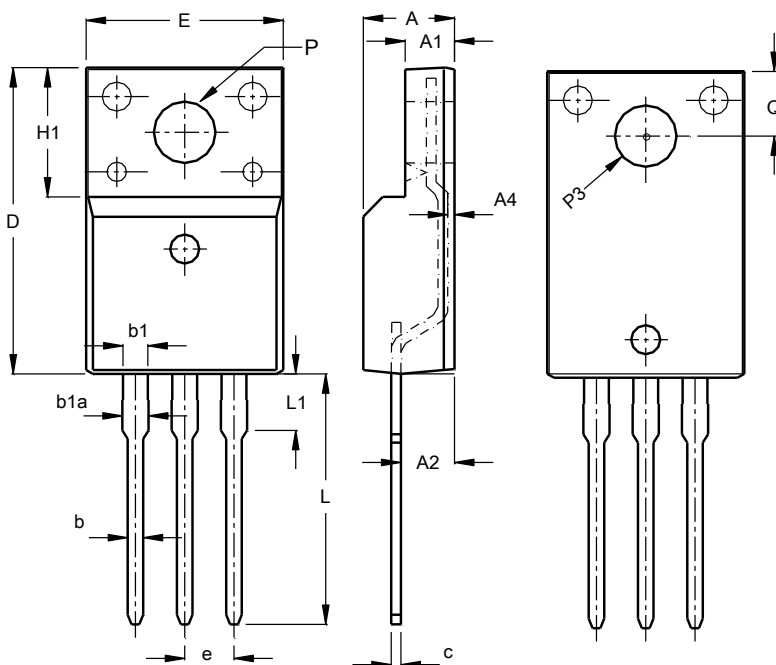
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

(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			

(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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