

## 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
150	5	0.79	8

## Description and Applications

The SDT10150GCT, SDT10150GCTSP 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:

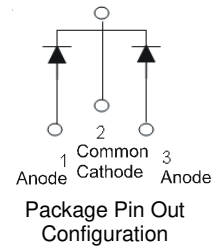
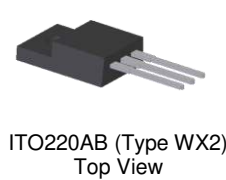
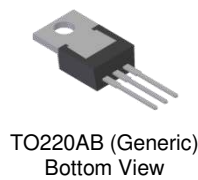
- DC-DC Converters
- AC-DC Adaptors

## Features

- Super Low Forward Voltage Drop
- Reliable 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-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

- Case: TO220AB, ITO220AB
- 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 – 1.927 grams (Approximate)  
ITO220AB – 1.558 grams (Approximate)

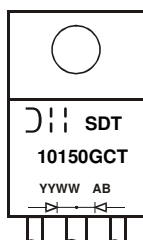


## Ordering Information (Note 4)

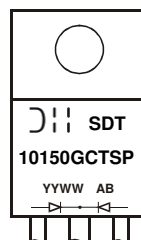
Part Number	Case	Packaging
SDT10150GCT	TO220AB (Generic)	50 Pieces/Tube
SDT10150GCTSP	ITO220AB (Type WX2)	50 Pieces/Tube

- 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 Code Marking  
 SDT10150GCT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 21 = 2021)  
 WW = Week (01 to 53)



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### 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	V <sub>RRM</sub>	150	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current per Device (Per Leg) (Total)	I <sub>O</sub>	5 10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	180	A

### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R <sub>θJC</sub>	5	°C/W
Package = TO220AB (Generic) (Note 5)		5	
Package = ITO220AB (Type WX2) (Note 6)			
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +175	°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>	—	—	0.79	V	I <sub>F</sub> = 5A, T <sub>J</sub> = +25°C
		—	—	0.63		I <sub>F</sub> = 5A, T <sub>J</sub> = +125°C
Leakage Current (Note 7)	I <sub>R</sub>	—	—	8	μA mA	V <sub>R</sub> = 150V, T <sub>J</sub> = +25°C
		—	0.4	10		V <sub>R</sub> = 150V, T <sub>J</sub> = +125°C

Notes: 5. With Aluminum plate heatsink (15mm x 36mm x 1.65mm).  
 6. With Aluminum fin-type heatsink (23mm x 20mm x 8.7mm).  
 7. Short duration pulse test used to minimize self-heating effect.

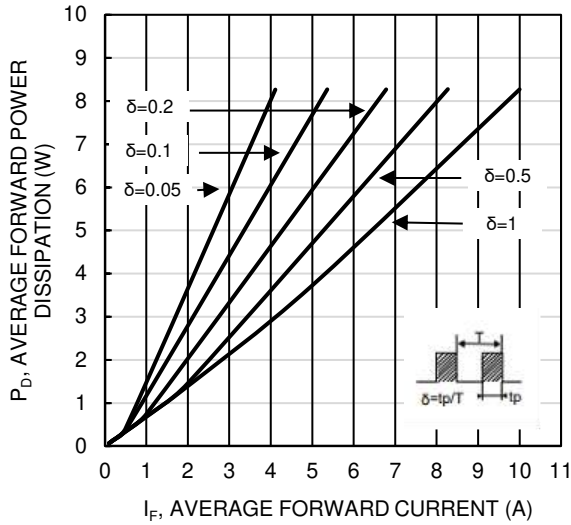


Figure 1. Forward Power Dissipation

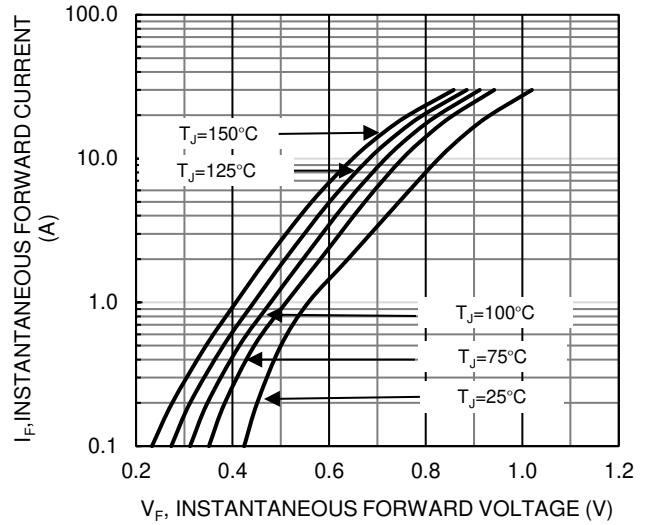


Figure 2. Typical Forward Characteristics

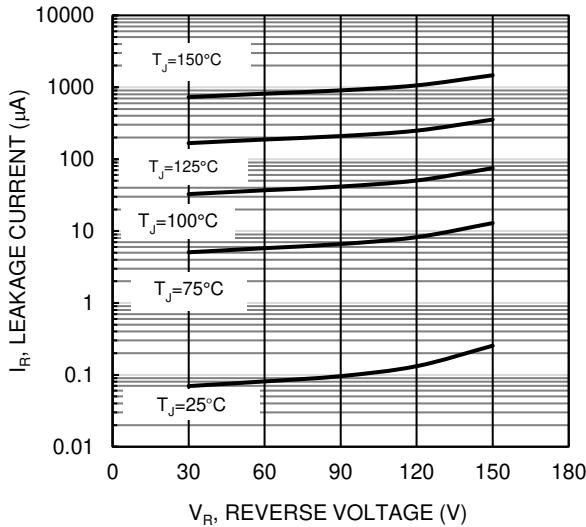


Figure 3. Typical Reverse Characteristics

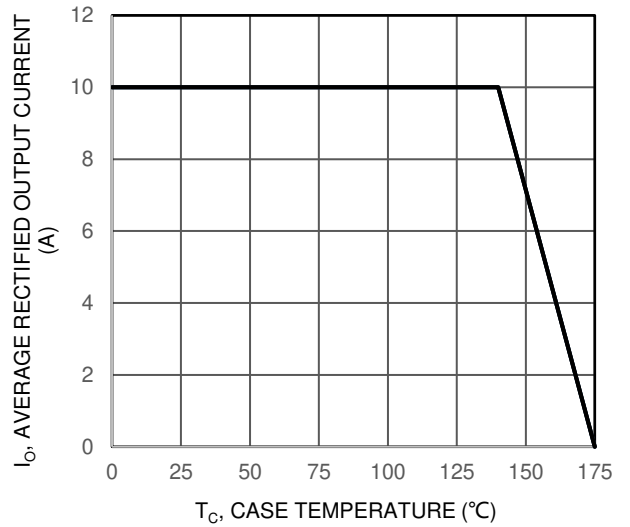


Figure 4. DC Forward Current Derating

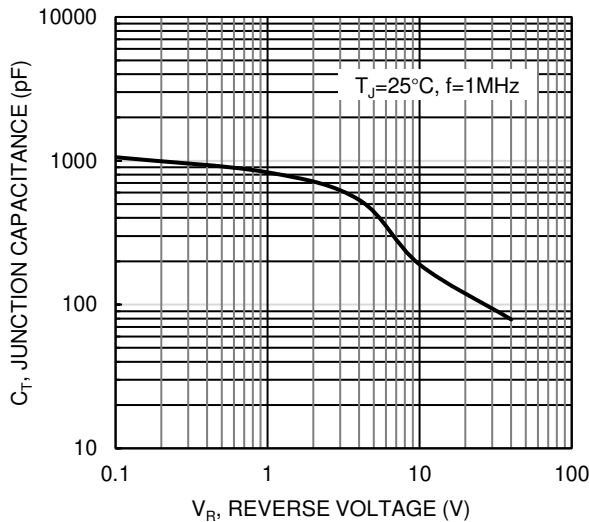


Figure 5. Typical Reverse Characteristic

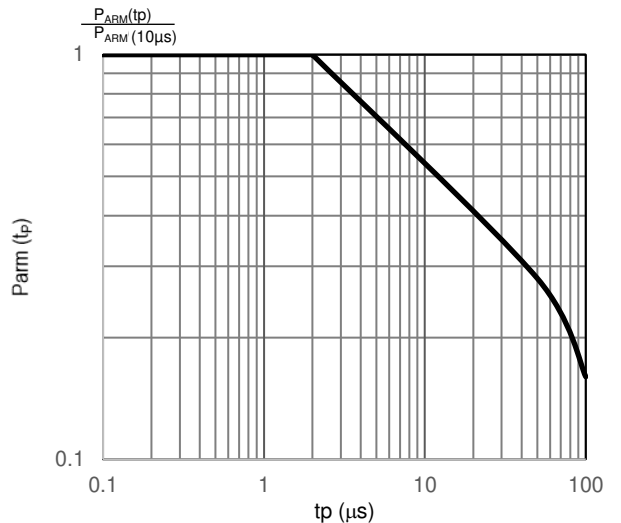
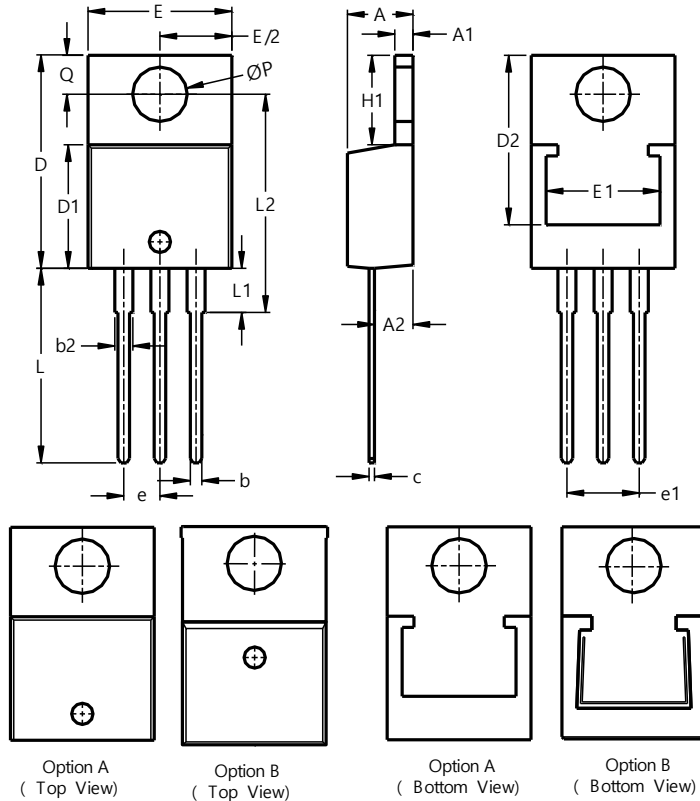


Figure 6. Normalized Avalanche Power Derating Versus Pulse Duration

## Package Outline Dimensions

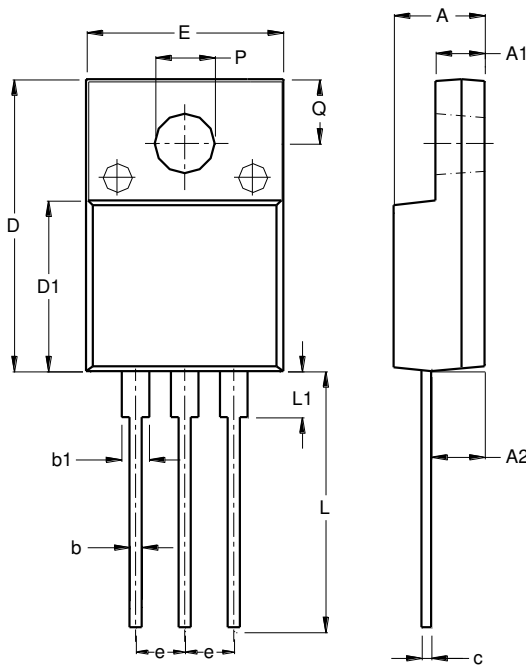
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### (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 WX2)



ITO220AB (Type WX2)		
Dim	Min	Max
A	4.46	4.87
A1	2.48	2.80
A2	2.50	2.80
b	0.50	0.80
b1	1.15	1.70
c	0.45	0.70
D	14.95	15.95
D1	8.50	8.80
E	10.00	10.40
e	2.40	2.70
L	13.00	13.70
L1	2.10	2.50
Q	2.76	3.36
P	3.00	3.30
All Dimensions in mm		

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