

Product Summary (Per Leg)

V_{RRM} (V)	I_O (A)	V_F max (V)	I_R max (mA)
100	15	0.8	0.15

Description

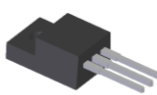
Packaged in the robust industry-standard TO220AB and ITO220AB packages, the SBRT30A100CT and SBRT30A100CTFP provide very low V_F and excellent reverse leakage stability at high temperatures.



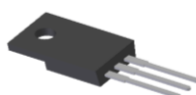
TO220AB
Top View



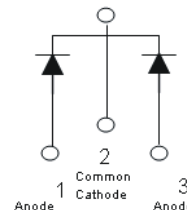
TO220AB
Bottom View



ITO220AB
Top View



ITO220AB
Bottom View



Package Pin-Out
Configuration

Features and Benefits

- Reduced ultra-low forward voltage drop (V_F); better efficiency and cooler operation.
- Reduced high temperature reverse leakage; Increased reliability against thermal runaway failure in high temperature operation.
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

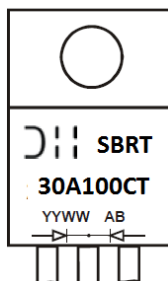
- Case: TO220AB, ITO220AB
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish; Solderable per MIL-STD-202, Method 208 (E3)

Ordering Information (Note 4)

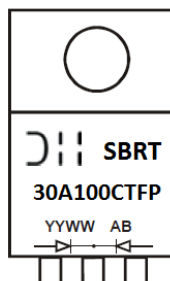
Part Number	Case	Packaging
SBRT30A100CT	TO220AB	50 Pieces/Tube
SBRT30A100CTFP	ITO220AB	50 Pieces/Tube

- 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 <http://www.diodes.com/products/packages.html>.

Marking Information



SBRT30A100CT = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 15 = 2015)
 WW = Week (01 to 53)



SBRT30A100CTFP = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 15 = 2015)
 WW = Week (01 to 53)

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitance 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 Leg) (Total)	I _O	15 30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Per Leg)	I _{FSM}	200	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R _{θJC}	TO220AB	1
		ITO220AB	3.3
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	—	0.73	0.80 0.67	V	I _F = 15A, T _J = +25°C I _F = 15A, T _J = +125°C
Leakage Current (Note 6)	I _R	—	—	0.15 30	mA	V _R = 100V, T _J = +25°C V _R = 100V, T _J = +125°C

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

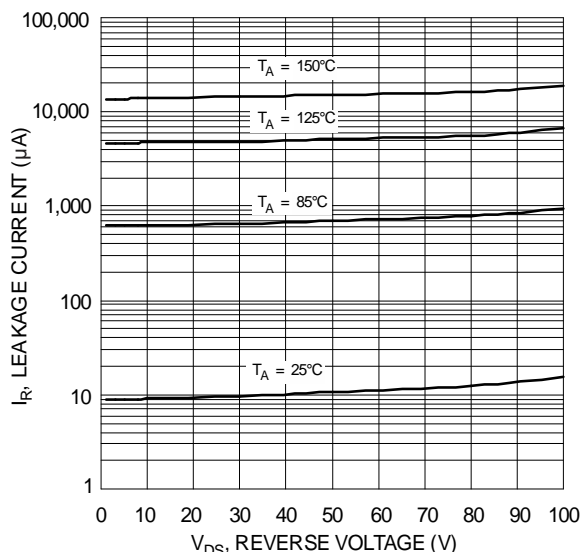


Figure 1 Typical Reverse Characteristics

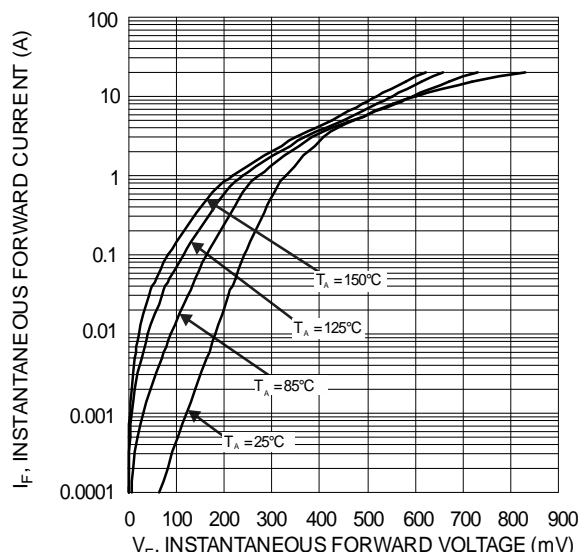
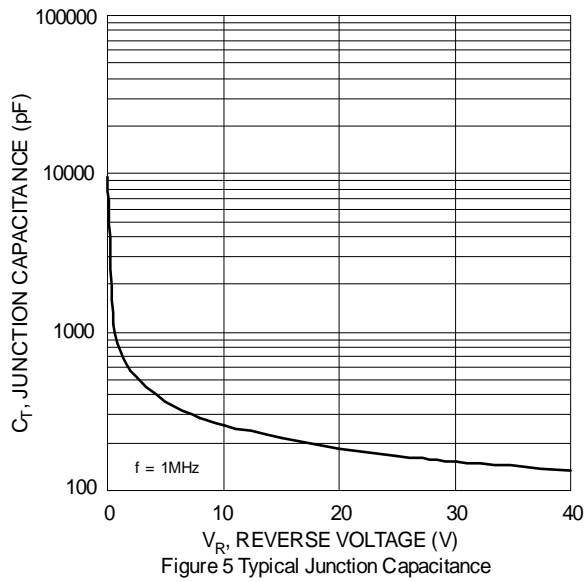
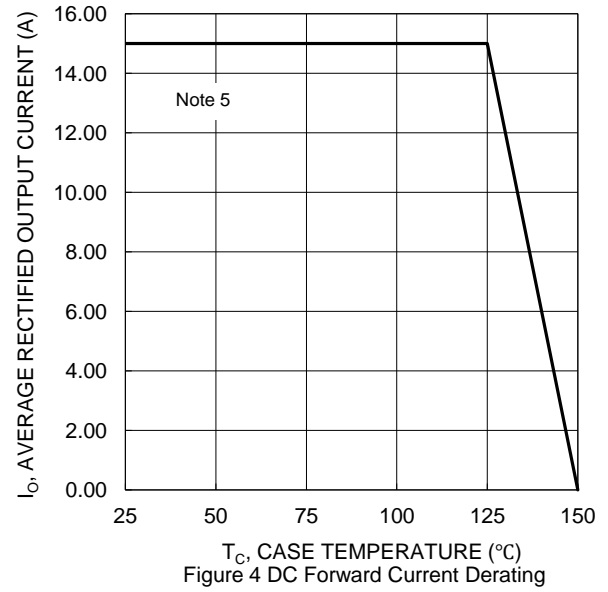
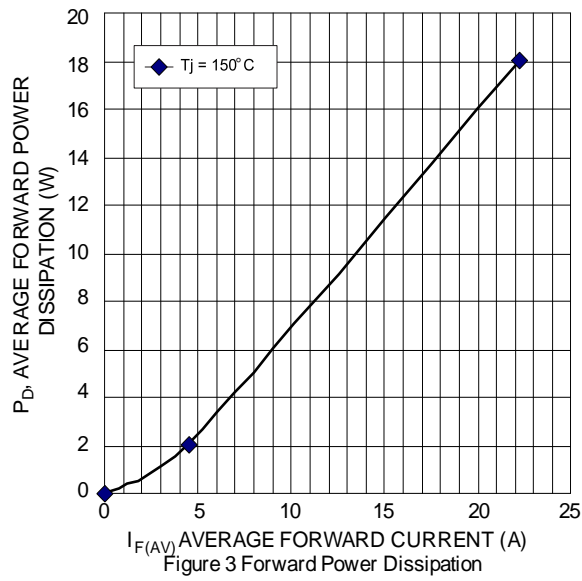


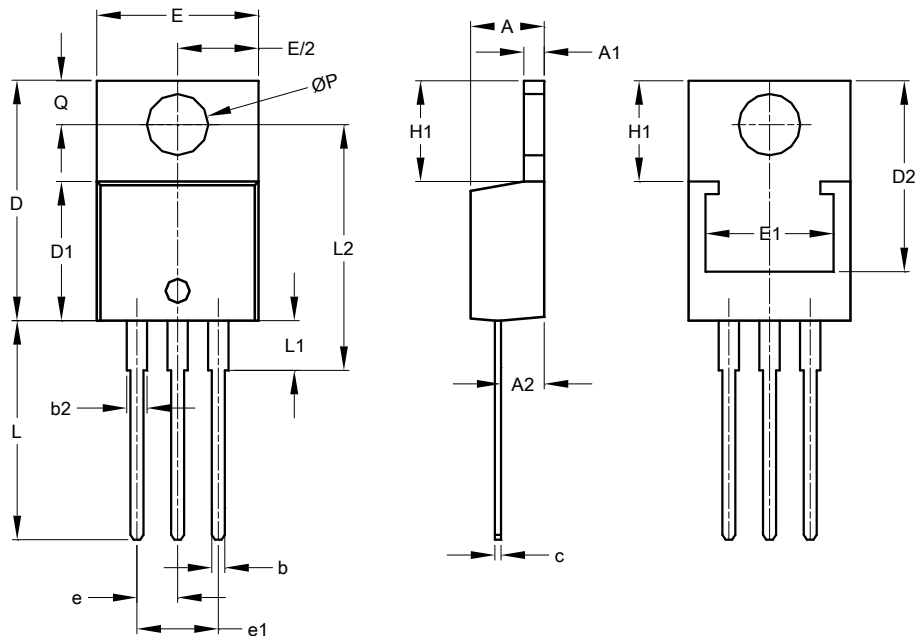
Figure 2 Typical Forward Characteristics



Package Outline Dimensions

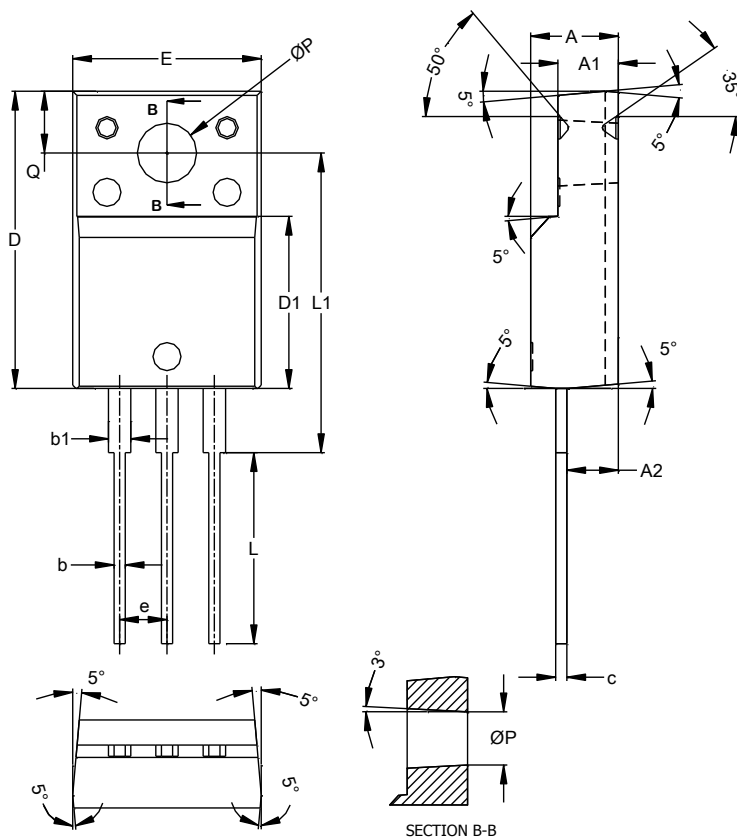
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

(1) Package Type: TO220AB



TO220AB			
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	-	6.35	-
L2	15.80	16.20	16.00
P	3.54	4.08	-
Q	2.54	3.42	-
All Dimensions in mm			

(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			

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