

Product Summary

V_{RRM} (V)	I_o (A)	$V_F(MAX)$ (V) @ +25°C	$I_R(MAX)$ (mA) @ +25°C
100	15 (Per leg) 30 (Total)	0.8	0.1

Description and Applications

The SBR30A100CT & SBR30A100CTFP provides very low V_F and 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 and Benefits

- Patented SBR technology provides superior avalanche capability versus Schottky diodes, ensuring more rugged and reliable end applications.
- 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)**

Mechanical Data

- Case: TO-220AB, ITO-220AB
- 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
- Marking Information: See Below
- Ordering Information: See Below
- Weight: TO-220AB – 1.85 grams (Approximate)
ITO-220AB – 1.65 grams (Approximate)



TO-220AB
Top View



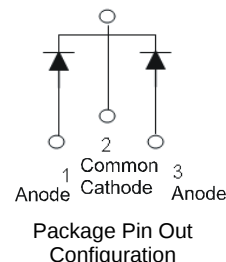
TO-220AB
Bottom View



ITO-220AB
Top View



ITO-220AB
Bottom View

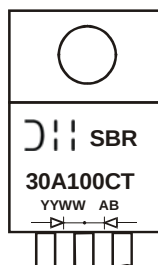


Ordering Information (Notes 4 and 5)

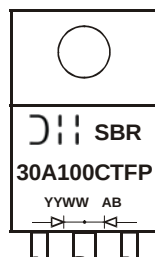
	Part Number	Case	Packaging
	SBR30A100CT	TO-220AB	50 pieces/tube
	SBR30A100CT-G	TO-220AB	50 pieces/tube
	SBR30A100CTFP	ITO-220AB	50 pieces/tube
	SBR30A100CTFP-G	ITO-220AB	50 pieces/tube
	SBR30A100CTFP-JT	ITO-220AB (Type E)	50 pieces/tube
	SBR30A100CTFP-JT-G	ITO-220AB (Type E)	50 pieces/tube

- 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> 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 Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR30A100CT-G.
 5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



SBR30A100CT = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 14 = 2014)
 WW = Week (01 - 53)



SBR30A100CTFP = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 14 = 2014)
 WW = Week (01 - 53)

Maximum Ratings (Per Leg) (@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 Device (Per Leg) (Total)	I _O	15 30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	250	A
Peak Repetitive Reverse Surge Current (2µs-1KHz)	I _{RRM}	3	A
Isolation Voltage (ITO-220AB Only) From Terminal to Heatsink t = 3 seconds	V _{AC}	2,000	V
Non-Repetitive Avalanche Energy (T _J = +25°C, I _{AS} = 10A, L = 8.5mH)	E _{AS}	550	mJ

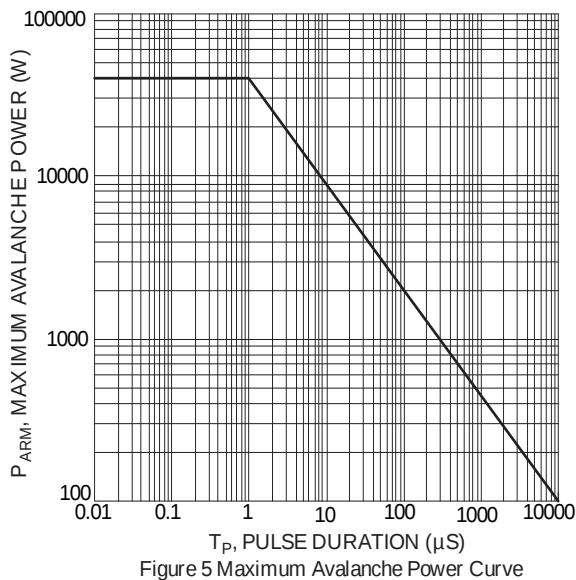
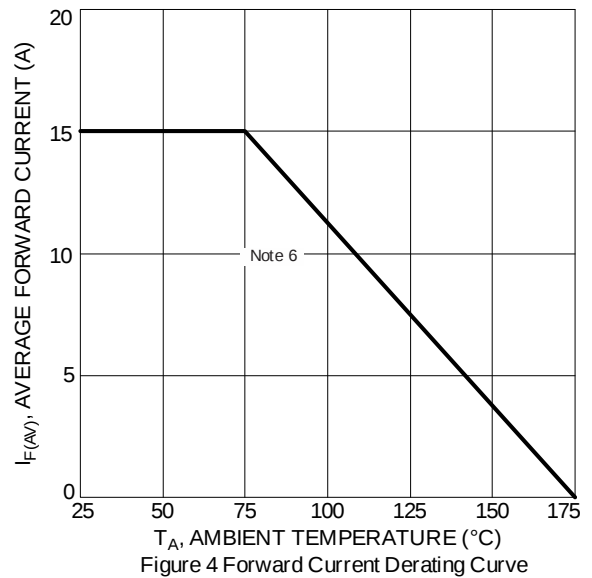
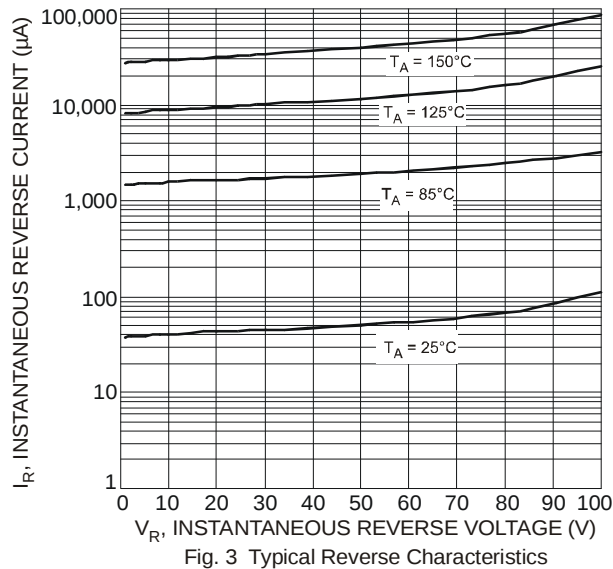
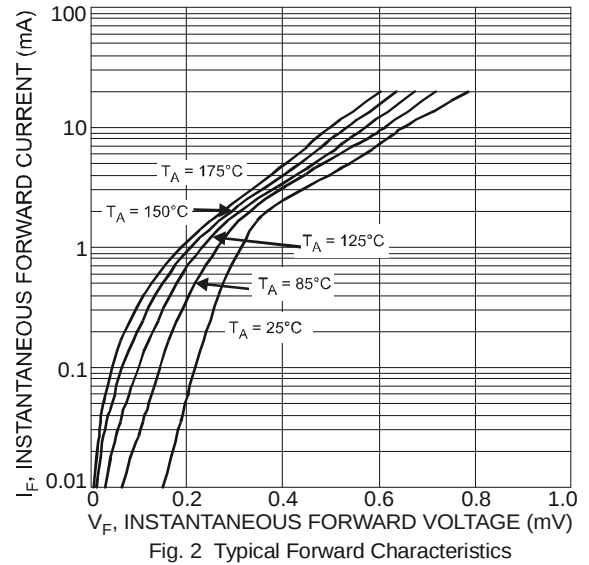
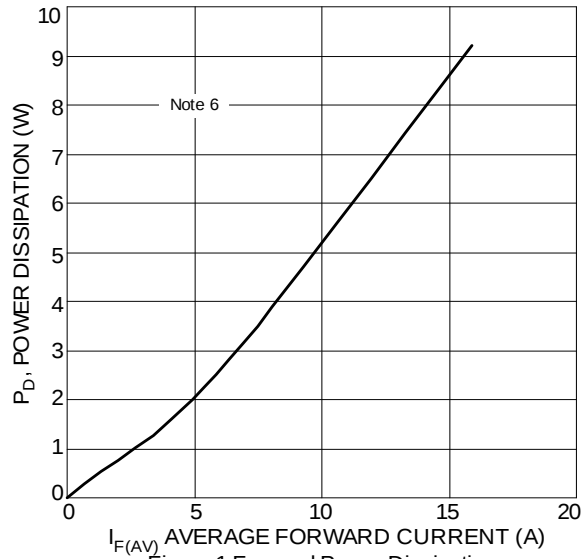
Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Package = TO-220AB (Note 6) Package = ITO-220AB (Note 6)	R _{θJC}	2 4	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

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

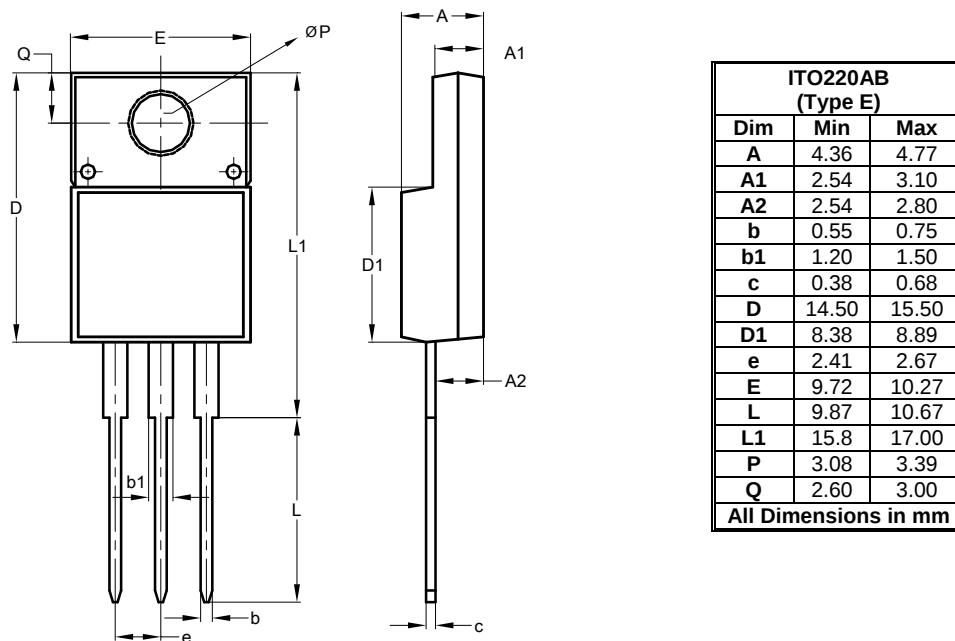
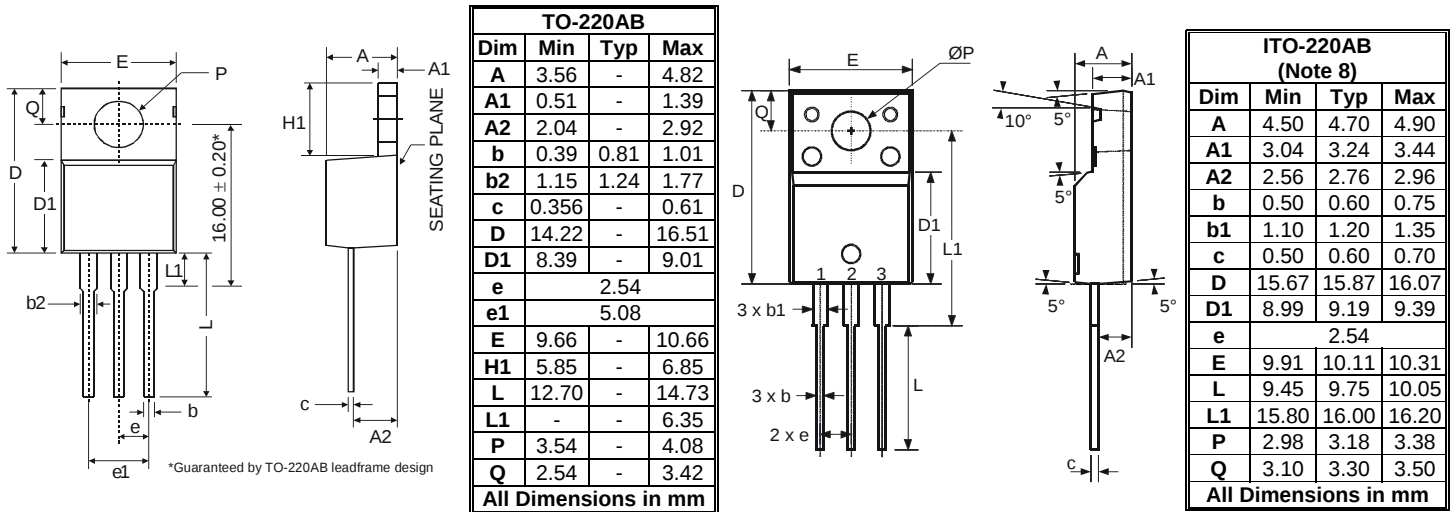
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	- 0.63	0.80 0.67	V	I _F = 15A, T _J = +25°C I _F = 15A, T _J = +125°C
Leakage Current (Note 7)	I _R	-	-	0.1 10	mA	V _R = 100V, T _J = +25°C V _R = 100V, T _J = +125°C

Notes: 6. Test with Aluminum heatsink 50 x 50 x 23 mm.
 7. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

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



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