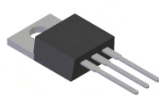


Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Also Available in Green Molding Compound**
 - **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

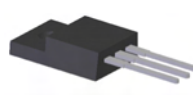
- Case: TO-220AB and ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⁽³⁾
- Weight: TO-220AB – 1.85 grams (approximate)
ITO-220AB -1.65 grams (approximate)



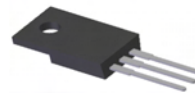
TO-220AB
Top View



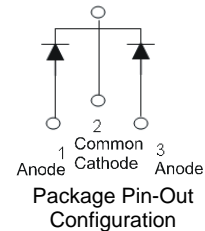
TO-220AB
Bottom View



ITO-220AB
Top View



ITO-220AB
Bottom View

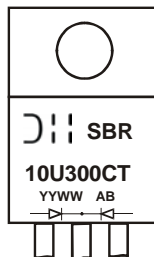


Ordering Information (Notes 4 and 5)

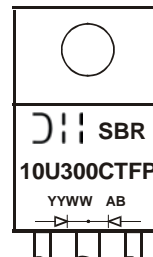
Part Number	Case	Packaging
SBR10U300CT	TO-220AB	50 pieces/tube
SBR10U300CT-G	TO-220AB	50 pieces/tube
SBR10U300CTFP	ITO-220AB	50 pieces/tube
SBR10U300CTFP-G	ITO-220AB	50 pieces/tube
SBR10U300CTFP-JT	ITO-220AB (Alternate)	50 pieces/tube

- 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: SBR10U300CT-G.
 5. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



SBR10U300CT = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year (ex: 06 = 2006)
WW = Week (01 - 53)



SBR10U300CTFP = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year (ex: 06 = 2006)
WW = Week (01 - 53)

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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}	300	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current @ $T_C = 150^\circ\text{C}$	I_O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	150	A
Peak Repetitive Reverse Surge Current (2 μs -1kHz)	I_{RRM}	3	A
Isolation Voltage (ITO-220AB Only) From terminal to heatsink $t = 3$ sec.	V_{AC}	2000	V

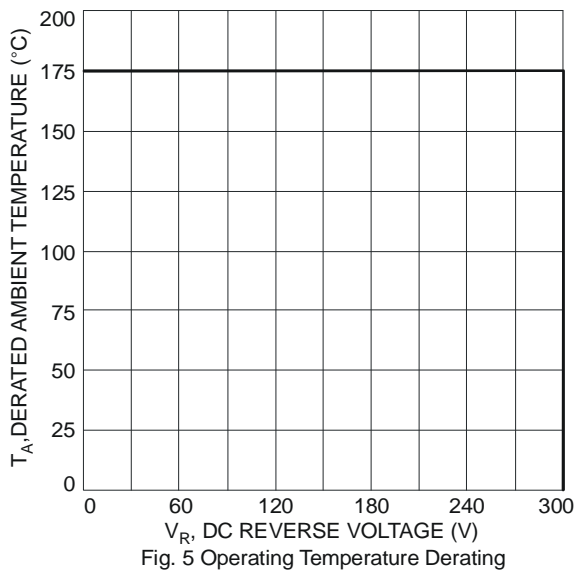
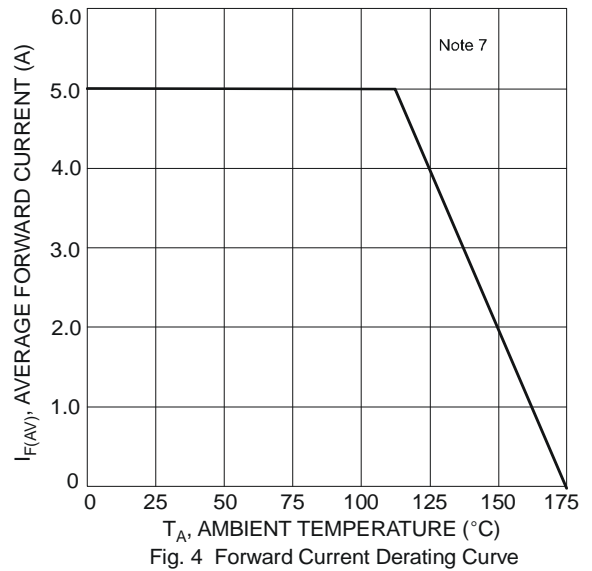
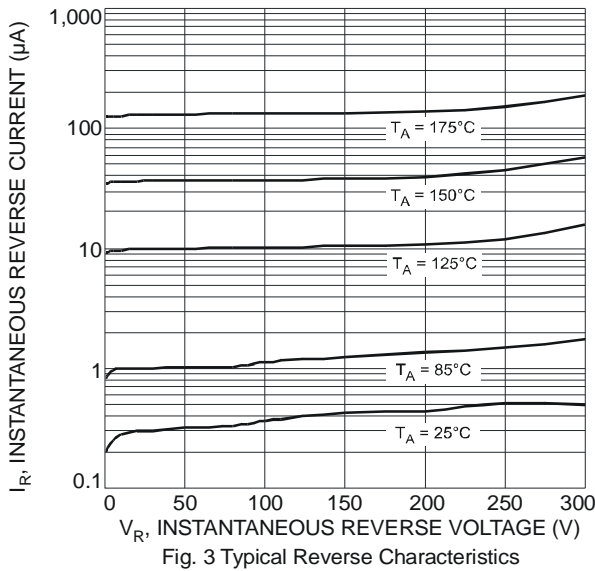
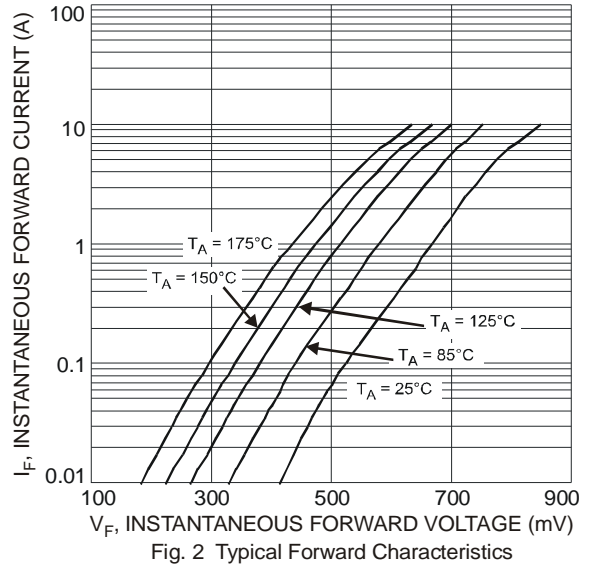
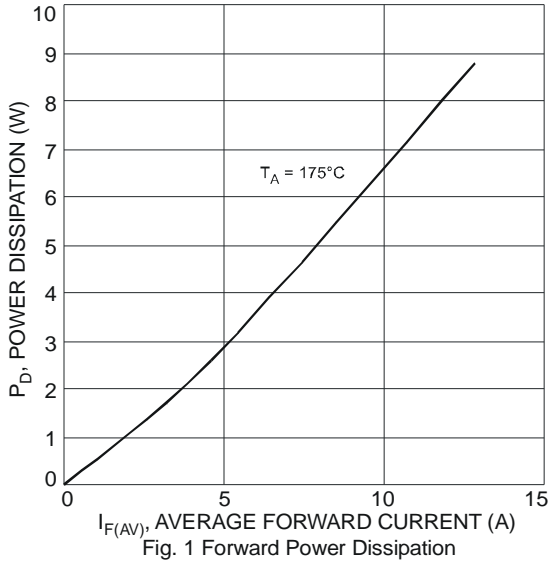
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (per leg) Package = TO-220AB	$R_{\theta JC}$	2	$^\circ\text{C}/\text{W}$
Package = ITO-220AB		4	
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^\circ\text{C}$

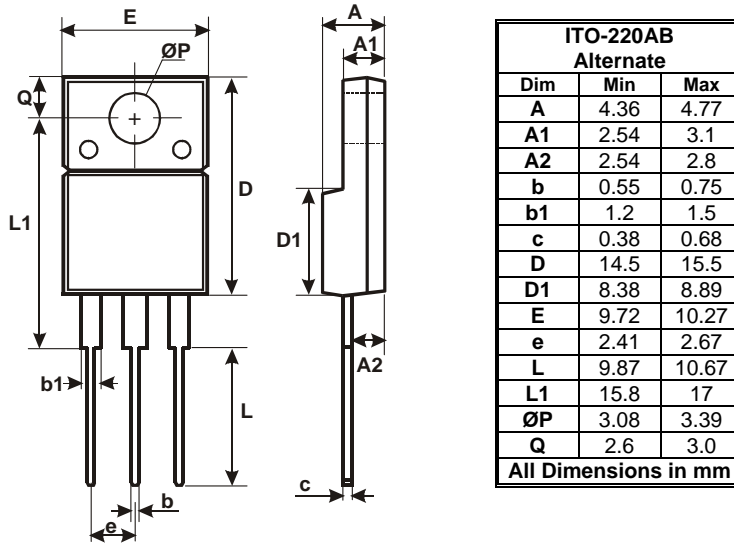
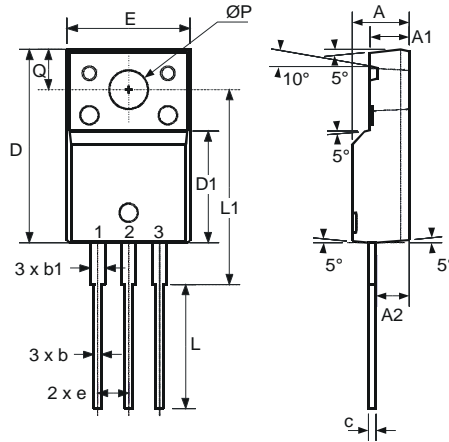
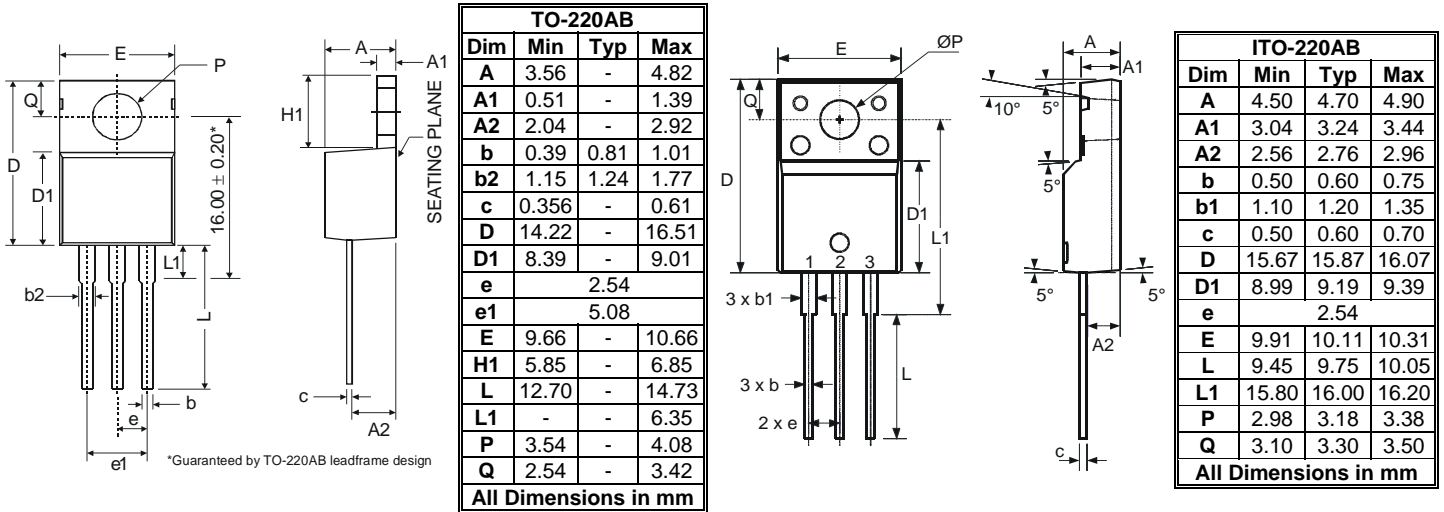
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	-	-	0.86	V	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$
			0.64	0.71		$I_F = 5\text{A}, T_J = 125^\circ\text{C}$
			-	0.92		$I_F = 10\text{A}, T_J = 25^\circ\text{C}$
Leakage Current (Note 6)	I_R	-	-	0.2	mA	$V_R = 300\text{V}, T_J = 25^\circ\text{C}$
				25		$V_R = 300\text{V}, T_J = 125^\circ\text{C}$
Reverse Recovery Time	t_{rr}	-	25	30	ns	$I_F = 0.5\text{A}, I_R = 1\text{A}, I_{RR} = 0.25\text{A}$
		-	28	35		$I_F = 1\text{A}, V_R = 30\text{V}$ $di/dt = 100\text{A}/\mu\text{s}, T_J = 25^\circ\text{C}$

Notes: 6. Short duration pulse test used to minimize self-heating effect.
 7. Using heatsink (by Black Aluminum 45mm * 20mm * 12mm).



Package Outline Dimensions



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B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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