



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Features

- 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, 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



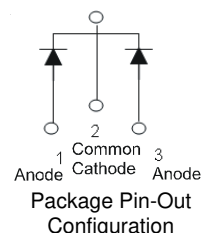
TO-220AB
Bottom View



ITO-220AB
Top View



ITO-220AB
Bottom View

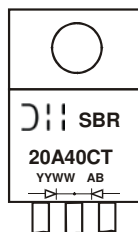


Ordering Information (Notes 4 and 5)

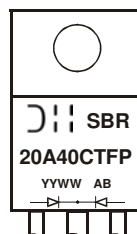
	Part Number	Case	Packaging
	SBR20A40CT	TO-220AB	50 pieces/tube
	SBR20A40CT-G	TO-220AB	50 pieces/tube
	SBR20A40CTFP	ITO-220AB	50 pieces/tube
	SBR20A40CTFP-G	ITO-220AB	50 pieces/tube
	SBR20A40CTFP-JT	ITO-220AB (Alternate)	50 pieces/tube

- 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: SBR20A40CT-G.
 5. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



SBR20A40CT = 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)



SBR20A40CTFP = 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°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}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current @ T _C = 110°C	I _O	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms	I _{FSM}	180	A
Single Half Sine-Wave Superimposed on Rated Load			
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	3	A
Isolation Voltage (ITO-220AB Only)	V _{AC}	2000	V
From terminal to heatsink t = 3 sec.			

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (per leg)	R _{θJC}	2	°C/W
Package = TO-220AB		4	
Package = ITO-220AB			
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	-	0.50	V	I _F = 10A, T _J = 25°C
			0.41	0.47		I _F = 10A, T _J = 125°C
			-	0.60		I _F = 20A, T _J = 25°C
Leakage Current (Note 6)	I _R	-	-	0.5	mA	V _R = 40V, T _J = 25°C
				100		V _R = 40V, T _J = 125°C

Notes: 6. Short duration pulse test used to minimize self-heating effect.

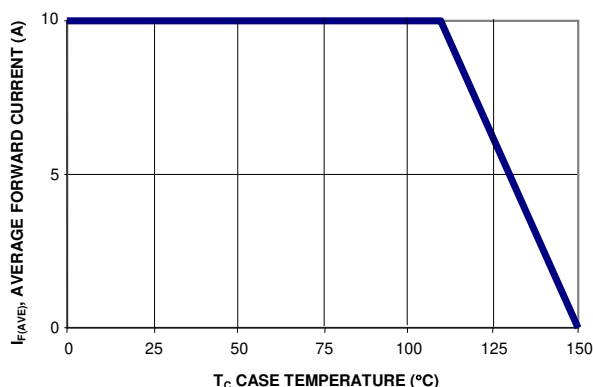


Figure 1: Current Derating Curve, Per Element

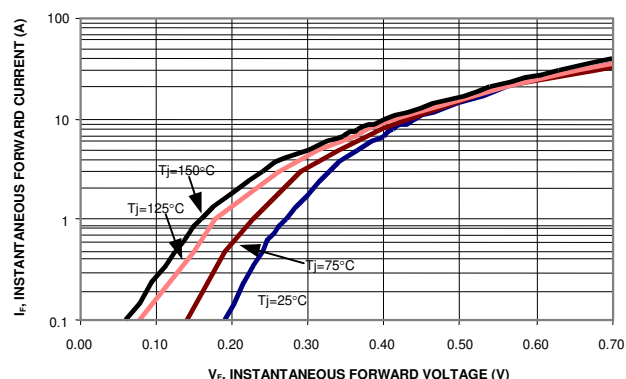


Figure 2: Typical Forward Characteristics, Per Element

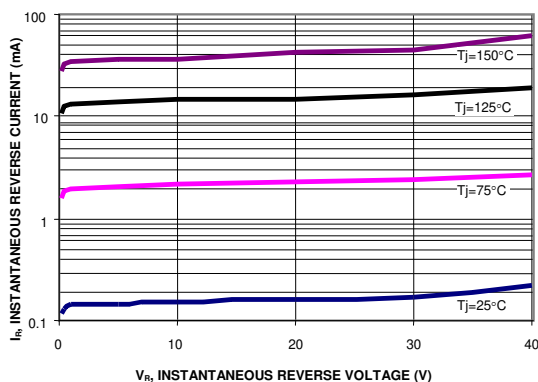
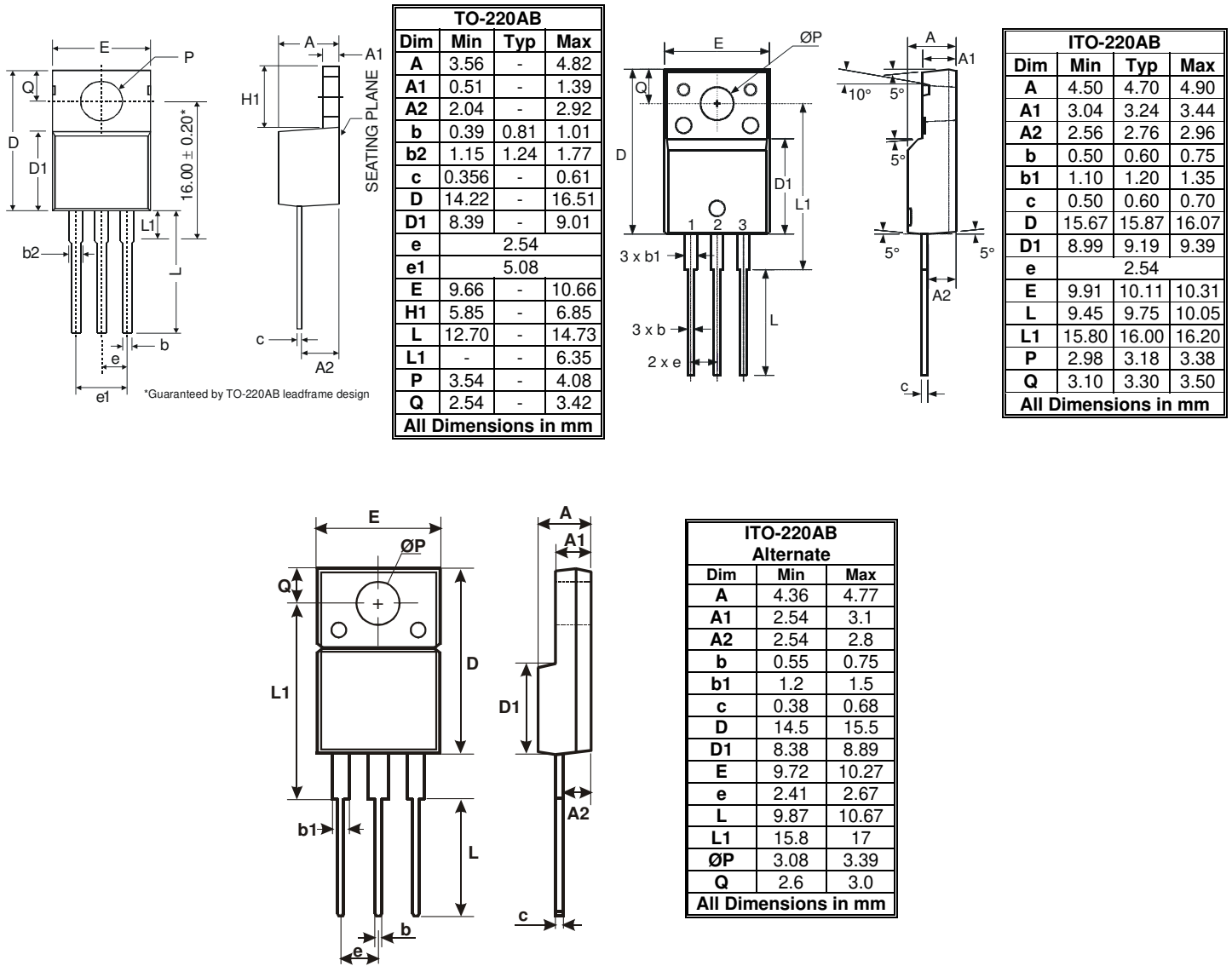


Figure 3: Typical Reverse Characteristics, Per Element

Package Outline Dimensions



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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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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