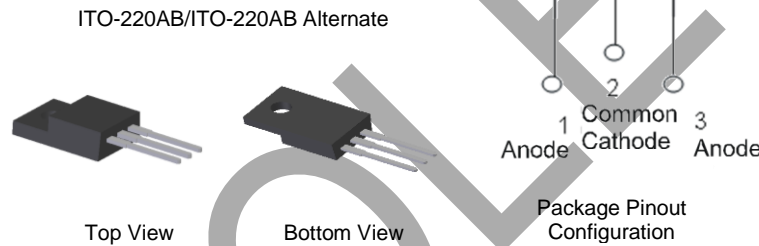


Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology (SBR®)
- Soft, Fast Switching Capability
- ITO-220AB
 - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Available in “Green” Packages: ITO-220AB and ITO-220AB Alternate
 - **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-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Mechanical Data

- Package: ITO-220AB
- Package 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: 1.65 grams (Approximate)

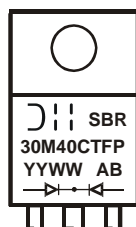


Ordering Information (Notes 4 and 5)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
SBR30M40CTFP	ITO-220AB	50 Pieces	Tube
SBR30M40CTFP-G	ITO-220AB	50 Pieces	Tube
SBR30M40CTFP-JT-G	ITO-220AB Alternate	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 green molding compound version part numbers, add "-G" suffix to part number above. Example: SBR30M40CTFP-G.
 5. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



SBR30M40CTFP = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 24 = 2024)
 WW = Week (01 to 53)

Maximum Ratings (Per Leg) (@T_A = +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 _{RRM}	40	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
Isolation Voltage From Terminal to Heatsink, t = 3 sec.	V _{AC}	2000	V

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R _{θJC}	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	—	—	0.65	V	I _F = 15A, T _J = +25°C
		—	0.54	0.59		I _F = 15A, T _J = +125°C
Leakage Current (Note 6)	I _R	—	8	75	μA mA	V _R = 40V, T _J = +25°C
		—	3	20		V _R = 40V, T _J = +125°C

- Notes: 6. Short duration pulse test used to minimize self-heating effect.
7. Test with additional heatsink, (black aluminum, 37mm x 50mm x 15mm)

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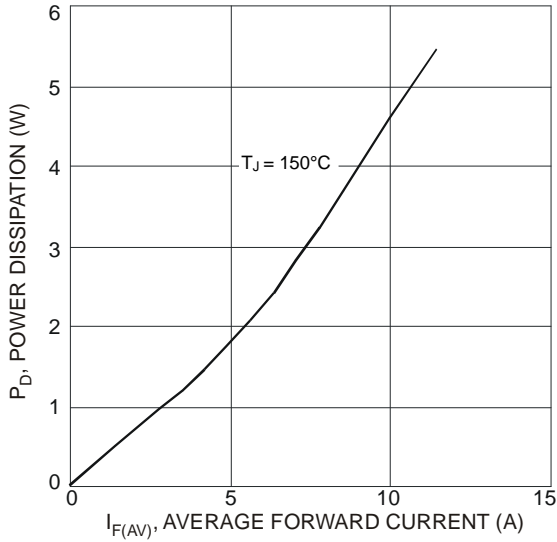


Figure 1 Forward Power Dissipation

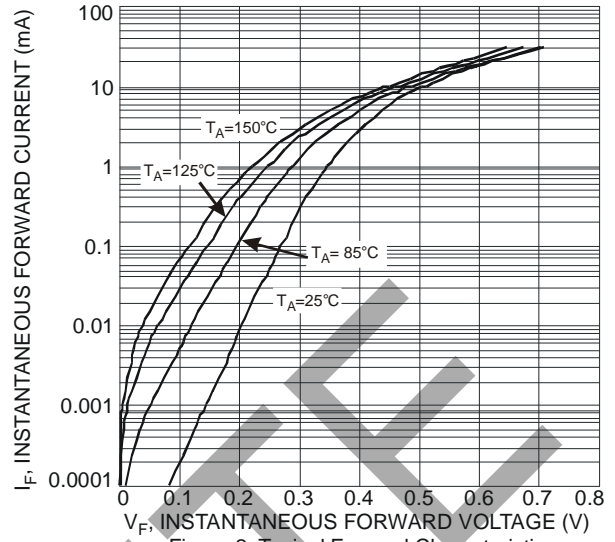


Figure 2 Typical Forward Characteristics

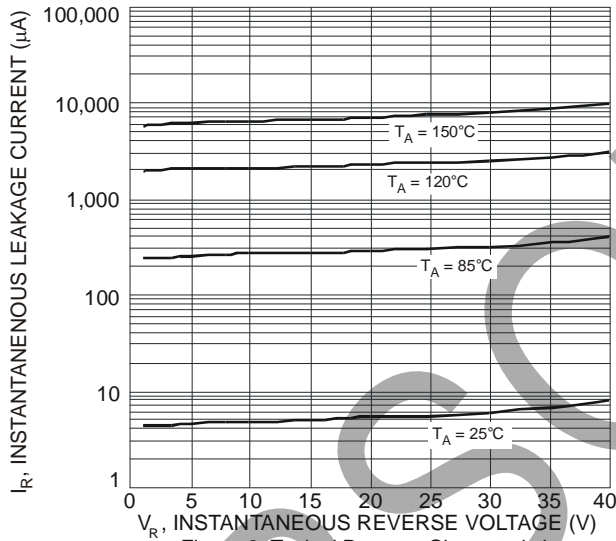


Figure 3 Typical Reverse Characteristics

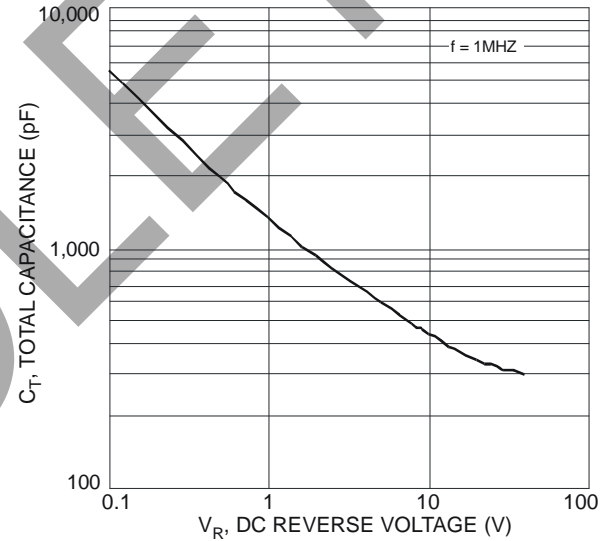


Figure 4 Total Capacitance vs. Reverse Voltage

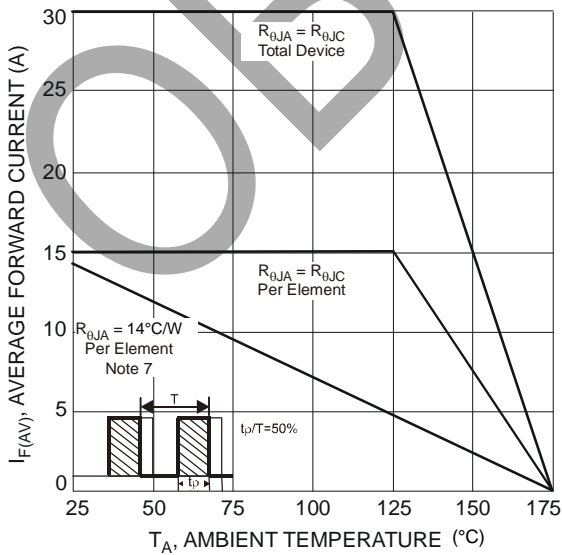


Figure 5 Forward Current Derating Curve

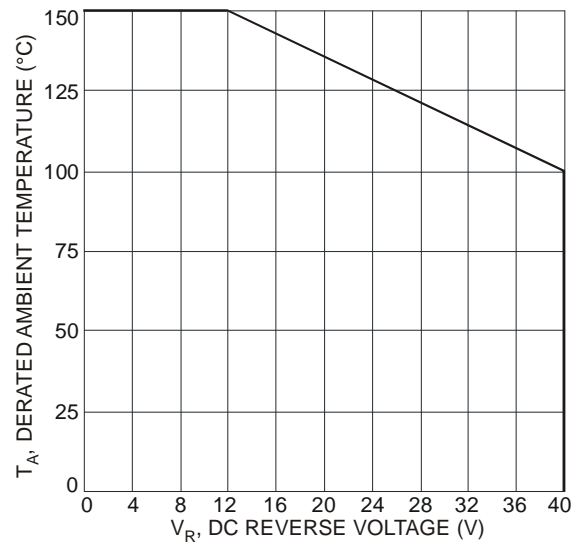
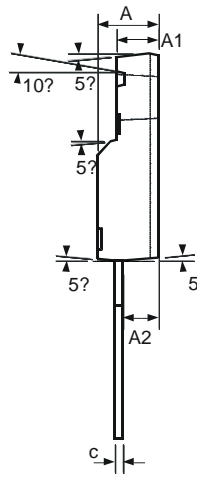
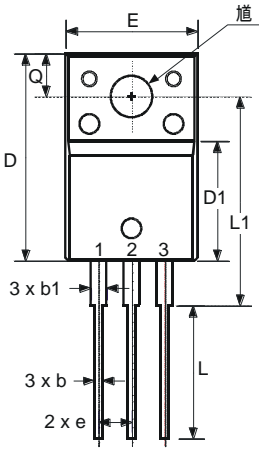


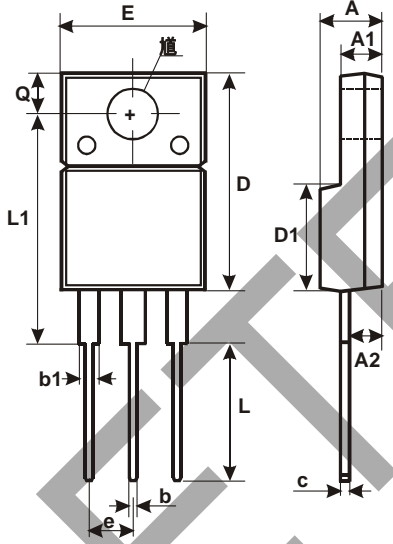
Figure 6 Operating Temperature Derating

Package Outline Dimensions

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



ITO-220AB (Note 8)			
Dim	Min	Typ	Max
A	4.50	4.70	4.90
A1	3.04	3.24	3.44
A2	2.56	2.76	2.96
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
c	0.50	0.60	0.70
D	15.67	15.87	16.07
D1	8.99	9.19	9.39
e	2.54		
E	9.91	10.11	10.31
L	9.45	9.75	10.05
L1	15.80	16.00	16.20
P	2.98	3.18	3.38
Q	3.10	3.30	3.50
All Dimensions in mm			



ITO-220AB Alternate (Note 8)		
Dim	Min	Max
A	4.36	4.77
A1	2.54	3.1
A2	2.54	2.8
b	0.55	0.75
b1	1.2	1.5
c	0.38	0.68
D	14.5	15.5
D1	8.38	8.89
E	9.72	10.27
e	2.41	2.67
L	9.87	10.67
L1	15.8	17
ØP	3.08	3.39
Q	2.6	3.0
All Dimensions in mm		

Note: 8. For product manufactured with date code 0733 (week 33, 2007) and newer, please refer to ITO-220AB dimensions. For product manufactured prior to date code 0733, please refer to ITO-220AB Alternate dimensions.

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