
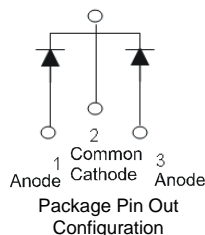


Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 2)**
- **Also Available in Green Molding Compound (Note 4)**

Mechanical Data

- Case: TO-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 
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 1.85 grams (approximate)

TO-220AB
Top ViewTO-220AB
Bottom View

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}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current @ T _C = 140°C	I _O	30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	280	A
Non-Repetitive Avalanche Energy (T _J = 25°C, I _{AS} = 20A, L = 8.5 mH)	E _{AS}	800	mJ
Repetitive Peak Avalanche Power (1μs, 25°C)	P _{ARM}	9800	W

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance	R _{θJC}	2	°C/W
Thermal Resistance Junction to Case			
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 (per leg)	V _F	-	0.41 0.50 0.34 —	0.45 0.54 0.37 0.5	V	I _F = 15A, T _J = 25°C I _F = 30A, T _J = 25°C I _F = 15A, T _J = 125°C I _F = 30A, T _J = 125°C
Leakage Current (Note 1)	I _R	-	0.33 40	1.5 100	mA	V _R = 30V, T _J = 25°C V _R = 30V, T _J = 125°C

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
 2. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes*.

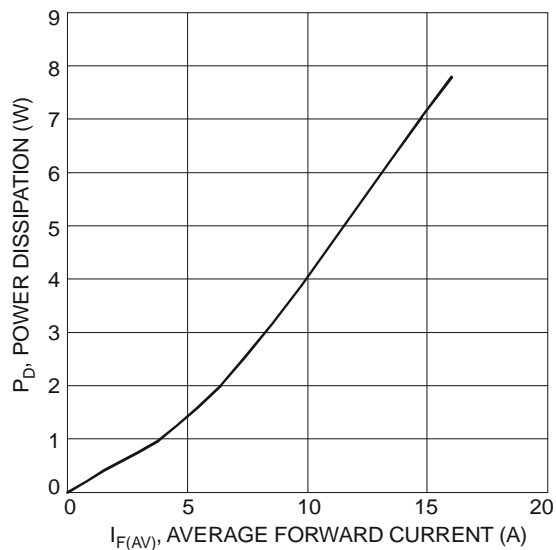


Fig. 1 Forward Power Dissipation

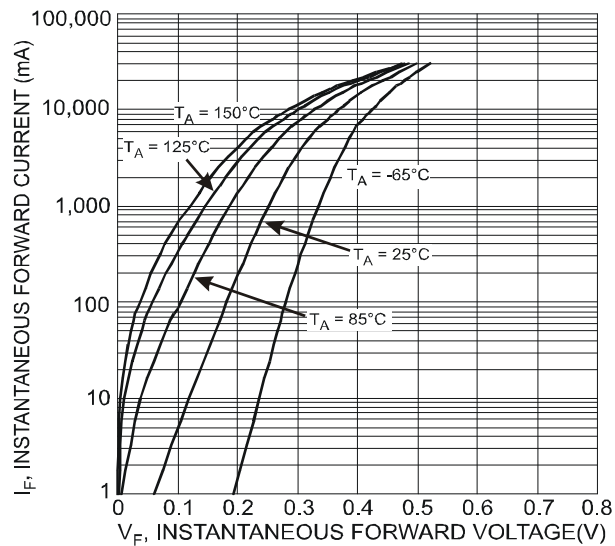


Fig. 2 Typical Forward Characteristics

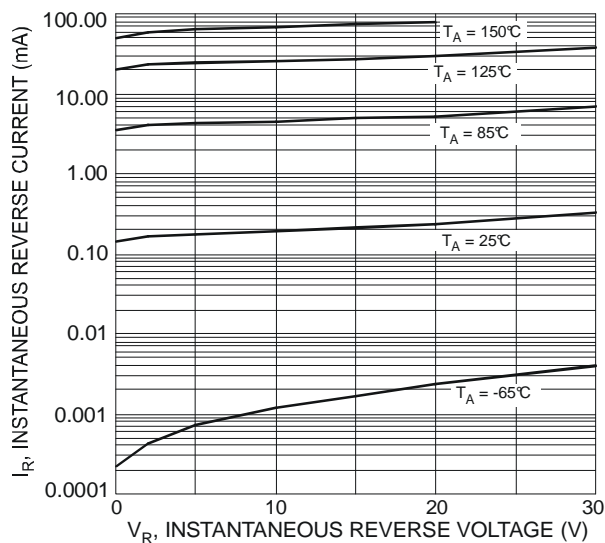


Fig. 3 Typical Reverse Characteristics

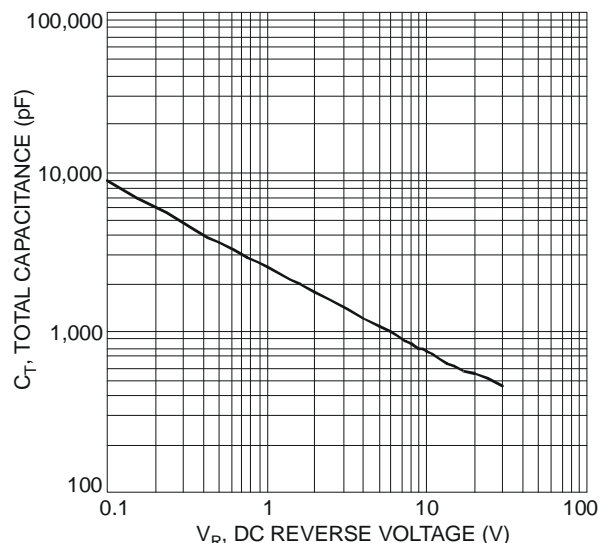


Fig. 4 Total Capacitance vs. Reverse Voltage

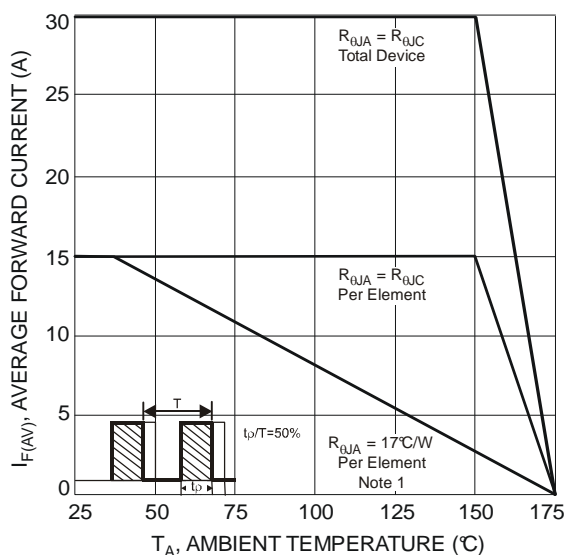


Fig. 5 Forward Current Derating Curve

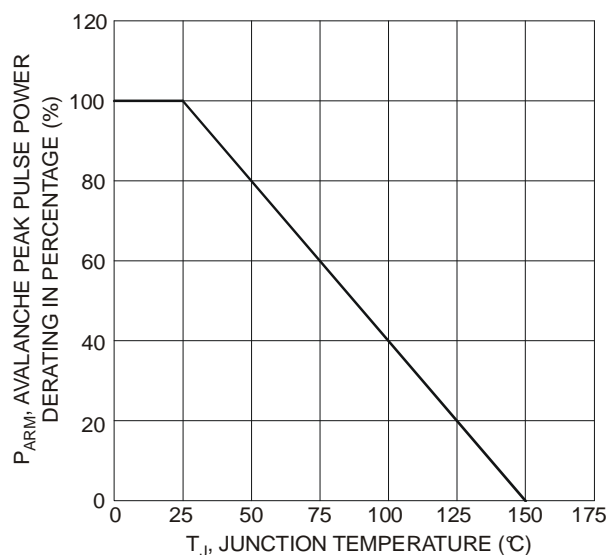
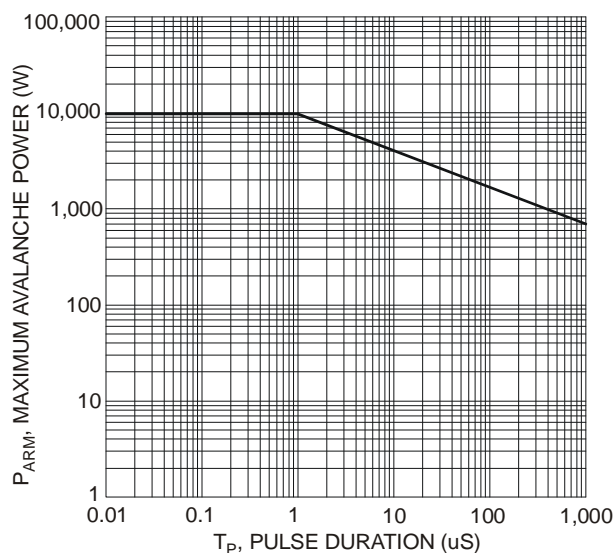


Fig. 6 Pulse Derating Curve

SBR is a registered trademark of Diodes Incorporated.

SBR30U30CT

Document number: DS31063 Rev. 7 - 2

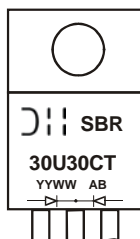


Ordering Information (Notes 3 & 4)

Part Number	Case	Packaging
SBR30U30CT	TO-220AB	50 pieces/tube
SBR30U30CT-G	TO-220AB	50 pieces/tube

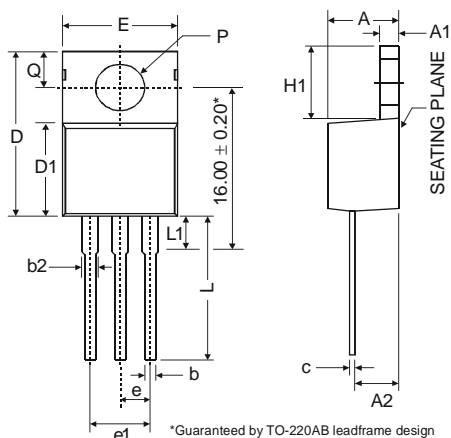
Notes: 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 4. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR30U30CT-G.

Marking Information



SBR30U30CT = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last two digits of year (ex: 06 = 2006)
 WW = Week (01-52)

Package Outline Dimensions



TO-220AB			
Dim	Min	Typ	Max
A	3.56	-	4.82
A1	0.51	-	1.39
A2	2.04	-	2.92
b	0.39	0.81	1.01
b2	1.15	1.24	1.77
c	0.356	-	0.61
D	14.22	-	16.51
D1	8.39	-	9.01
e	2.54		
e1	5.08		
E	9.66	-	10.66
H1	5.85	-	6.85
L	12.70	-	14.73
L1	-	-	6.35
P	3.54	-	4.08
Q	2.54	-	3.42
All Dimensions in mm			

SBR is a registered trademark of Diodes Incorporated.

SBR30U30CT
 Document number: DS31063 Rev. 7 - 2

3 of 4
www.diodes.com

January 2009
 © Diodes Incorporated

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.