

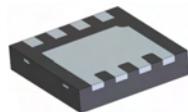
Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- High Forward Surge Current Capability
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)

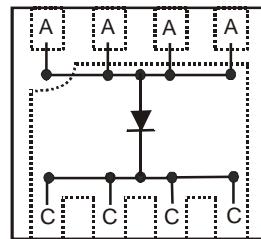
Mechanical Data

- Case: U-DFN3030-8
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - NiPdAu over Copper lead frame. Solderable per MIL-STD-202, Method 208 ©4
- Polarity: See Diagram
- Weight: 0.0172 grams (approximate)

U-DFN3030-8



Bottom View


 C = CATHODE
 A = ANODE

 Top View
 Schematic and Pin Configuration

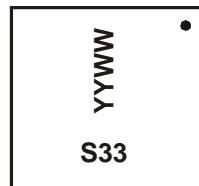
Ordering Information (Note 4)

Part Number	Case	Packaging
B3L30LP-7	U-DFN3030-8	3000/Tape & Reel

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
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 packaging details, go to our website at <http://www.diodes.com>.

Marking Information



S33 = Product marking code
 YYWW = Date code marking
 YY = Last digit of year (ex: 06 for 2006)
 WW = Week code (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}		
Working Peak Reverse Voltage	V_{RWM}	30	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(\text{RMS})}$	21	V
Average Rectified Output Current	I_O	3.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I_{FSM}	30	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point	$R_{\theta JS}$	—	3	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	130	—	$^\circ\text{C}/\text{W}$
Power Dissipation	P_D	— — —	2.5 4.0 4.5	W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150		$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 9)	$V_{(BR)R}$	30	—	—	V	$I_R = 5.0\text{mA}$
Forward Voltage	V_F	—	0.28	—	V	$I_F = 0.5\text{A}, T_J = +25^\circ\text{C}$
		—	0.30	0.35		$I_F = 1.0\text{A}, T_J = +25^\circ\text{C}$
		—	0.18	0.29		$I_F = 1.0\text{A}, T_J = +125^\circ\text{C}$
		—	0.33	0.40		$I_F = 2.0\text{A}, T_J = +25^\circ\text{C}$
		—	0.22	0.37		$I_F = 2.0\text{A}, T_J = +125^\circ\text{C}$
		—	0.35	0.45		$I_F = 3.0\text{A}, T_J = +25^\circ\text{C}$
		—	0.26	0.42		$I_F = 3.0\text{A}, T_J = +125^\circ\text{C}$
		—	0.27	1.0	mA	$T_J = +25^\circ\text{C}, V_R = 30\text{V}$
Reverse Current (Note 9)	I_R	—	55	90	mA	$T_J = +100^\circ\text{C}, V_R = 30\text{V}$

Notes:

5. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>. $T_A = +25^\circ\text{C}$.
6. Device mounted on FR-4 PCB, 25mm^2 pad area.
7. Device mounted on FR-4 PCB, 75mm^2 pad area.
8. Aluminum PCB with copper mounting pad area of 75mm^2 .
9. Short duration pulse test used to minimize self-heating effect.

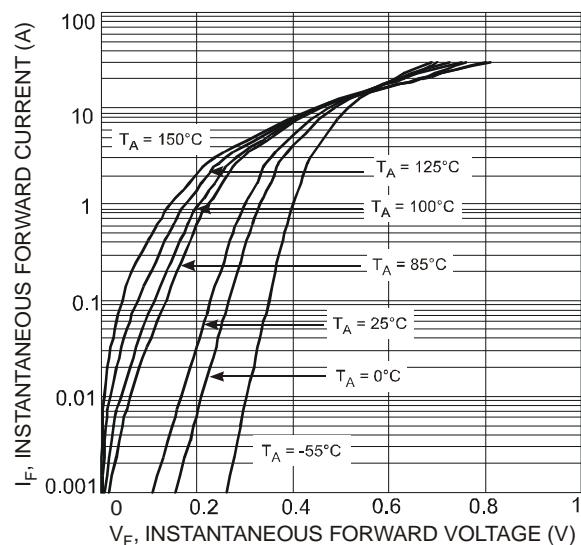


Fig. 1 Typical Forward Characteristics

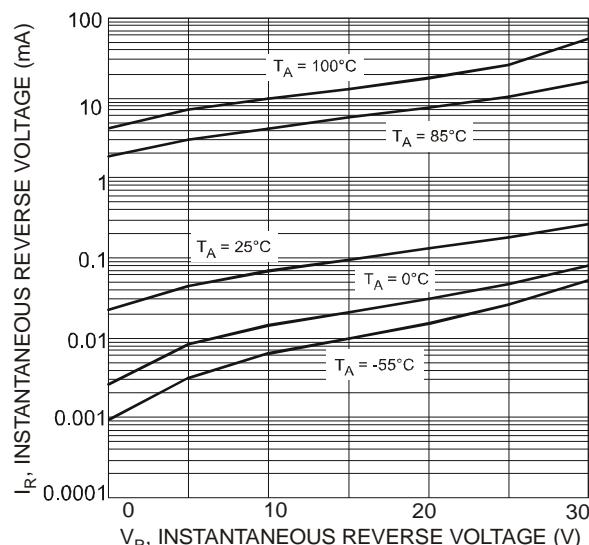


Fig. 2 Typical Reverse Characteristics

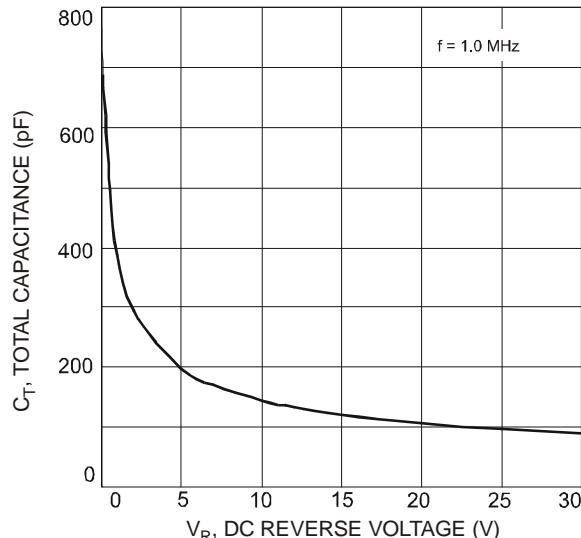


Fig. 3 Total Capacitance vs. Reverse Voltage

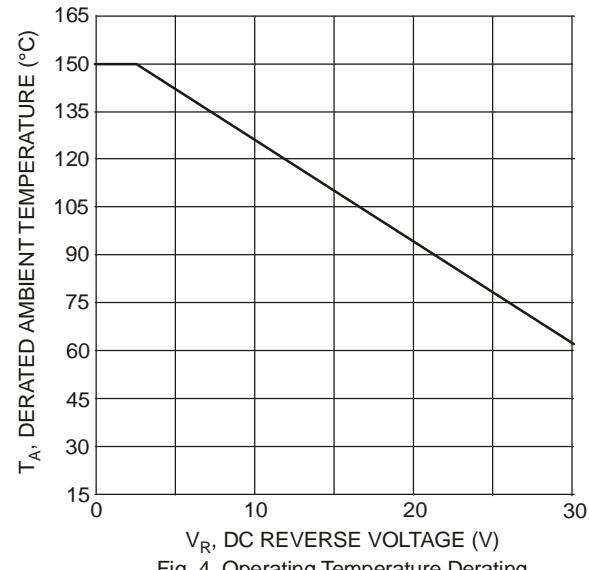
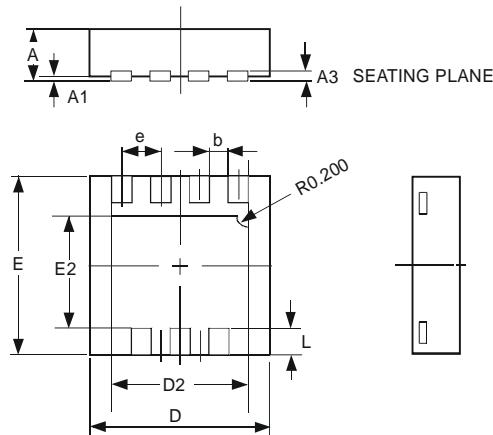


Fig. 4 Operating Temperature Derating

Package Outline Dimensions

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

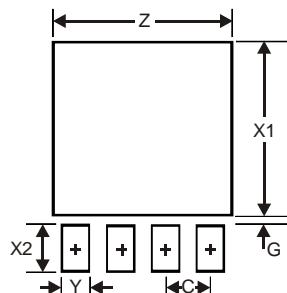


U-DFN3030-8			
Dim	Min	Max	Typ
A	0.57	0.63	0.60
A1	0	0.05	0.02
A3	—	—	0.15
b	0.29	0.39	0.34
D	2.90	3.10	3.00
D2	2.19	2.39	2.29
e	—	—	0.65
E	2.90	3.10	3.00
E2	1.64	1.84	1.74
L	0.30	0.60	0.45

All Dimensions in mm

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
Z	2.59
G	0.11
X1	2.49
X2	0.65
Y	0.39
C	0.65

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