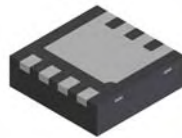


Features

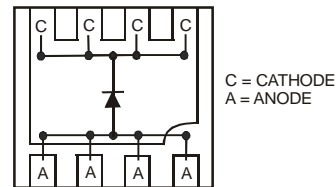
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- High Forward Surge Current Capability
- **Lead Free by Design, RoHS Compliant (Note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



Bottom View

Mechanical Data

- Case: DFN3030-8
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish - NiPdAu over Copper lead frame. Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.0172 grams (approximate)


 BOTTOM VIEW
 Schematic and Pin Configuration

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 _R		
RMS Reverse Voltage	V _{R(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 _{θJS}	—	3	°C/W
Thermal Resistance Junction to Ambient Air (Note 2)	R _{θJA}	130	—	°C/W
Power Dissipation (Note 5)	P _D	—	2.5	W
(Note 6)		—	4.0	
(Note 7)		—	4.5	
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
Reverse Breakdown Voltage (Note 4)	V _{(BR)R}	30	—	—	V	I _R = 5.0mA
Forward Voltage	V _F	—	0.28	—	V	I _F = 0.5A, T _J = 25°C
		—	0.30	0.35		I _F = 1.0A, T _J = 25°C
		—	0.18	0.29		I _F = 1.0A, T _J = 125°C
		—	0.33	0.40		I _F = 2.0A, T _J = 25°C
		—	0.22	0.37		I _F = 2.0A, T _J = 125°C
		—	0.35	0.45		I _F = 3.0A, T _J = 25°C
		—	0.26	0.42		I _F = 3.0A, T _J = 125°C
Reverse Current (Note 4)	I _R	—	0.27	1.0	mA	T _J = 25°C, V _R = 30V
		—	55	90	mA	T _J = 100°C, V _R = 30V

- Notes:
1. No purposefully added lead.
 2. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>. T_A = 25°C.
 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Short duration pulse test used to minimize self-heating effect.
 5. Device mounted on FR-4 PCB, 25mm² pad area.
 6. Device mounted on FR-4 PCB, 75mm² pad area.
 7. Aluminum PCB with copper mounting pad area of 75mm².

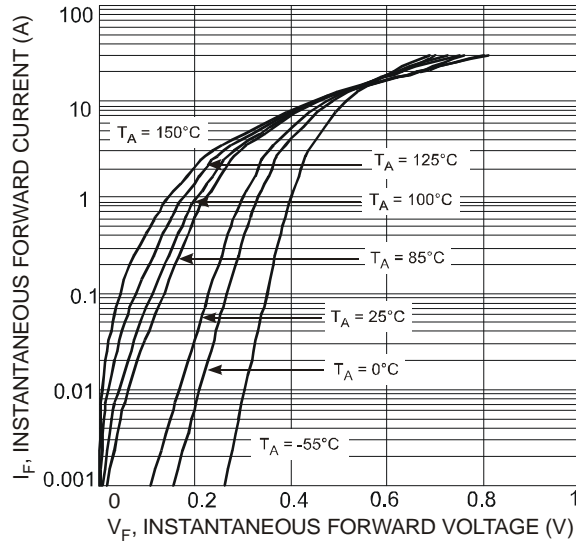


Fig. 1 Typical Forward Characteristics

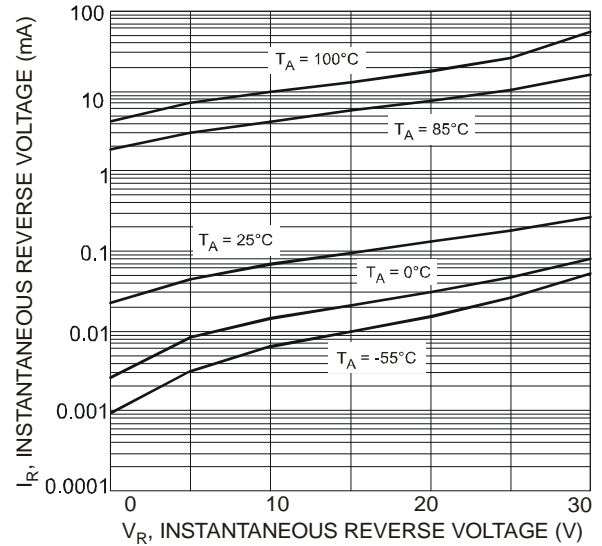


Fig. 2 Typical Reverse Characteristics

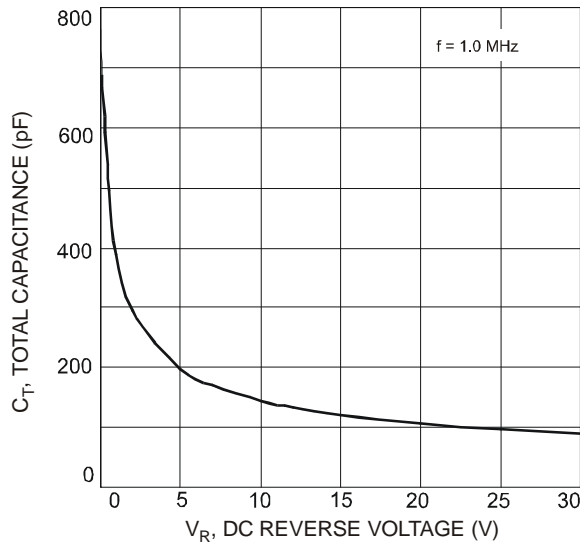


Fig. 3 Total Capacitance vs. Reverse Voltage

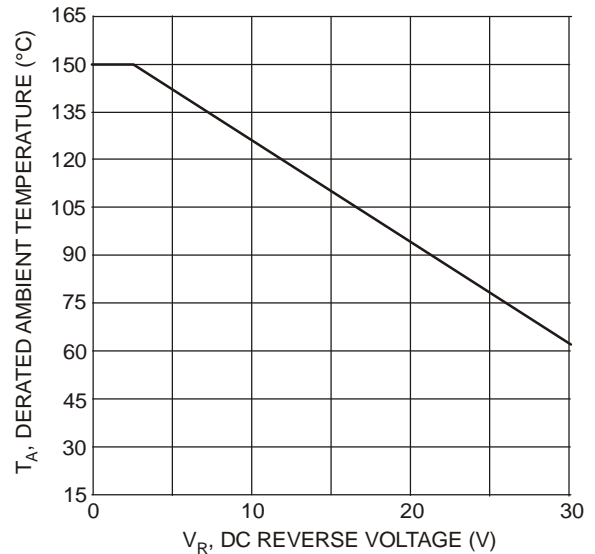


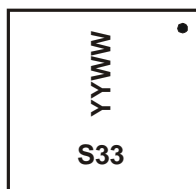
Fig. 4 Operating Temperature Derating

Ordering Information (Note 6)

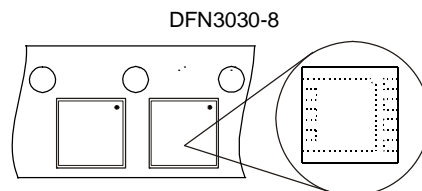
Part Number	Case	Packaging
B3L30LP-7	DFN3030-8	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

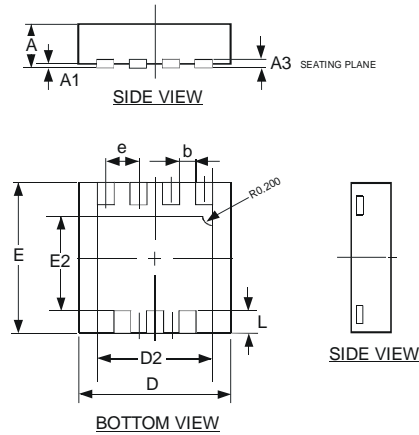
Marking Information



S33 = Product marking code
YYWW = Date code marking
YY = Last digit of year ex: 06 for 2006
WW = Week code 01 to 52

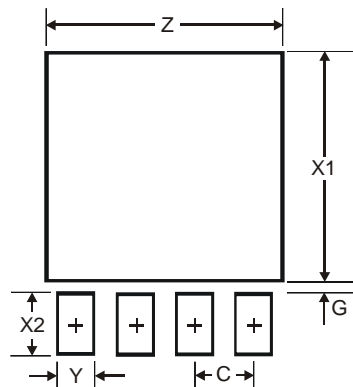


Package Outline Dimensions



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



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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