NEW PRODUCT

SBR8U60P5

8A SBR®
SUPER BARRIER RECTIFIER
PowerDI®5

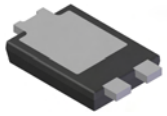
Features

- Ultra Low Forward Voltage Drop
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150ºC Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**

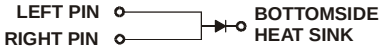
Mechanical Data

- Case: PowerDI®5
- Case Material: Molded Plastic, "Green" Molding compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish - Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Below
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.093 grams (approximate)

Top View



Bottom View



Note: Pins Left & Right must be electrically connected at the printed circuit board.

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{RM}	60	V
Average Rectified Output Current @T_C = 140ºC	I_O	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	280	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance Thermal Resistance Junction to Soldering (Note 2) Thermal Resistance Junction to Ambient (Note 3)	 $R_{\theta JS}$ $R_{\theta JA}$	 3 60	ºC/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	ºC

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	- - -	0.30 0.46 -	0.35 0.53 0.5	V	I_F = 1.0A, T_J = 25ºC I_F = 8A, T_J = 25ºC I_F = 8A, T_J = 125ºC
Leakage Current (Note 4)	I_R	- -	0.12 -	0.6 100	mA	V_R = 60V, T_J = 25ºC V_R = 60V, T_J = 125ºC

Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.
2. Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB cathode tab solder junction.
3. Polymide PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf.
4. Short duration pulse test used to minimize self-heating effect.

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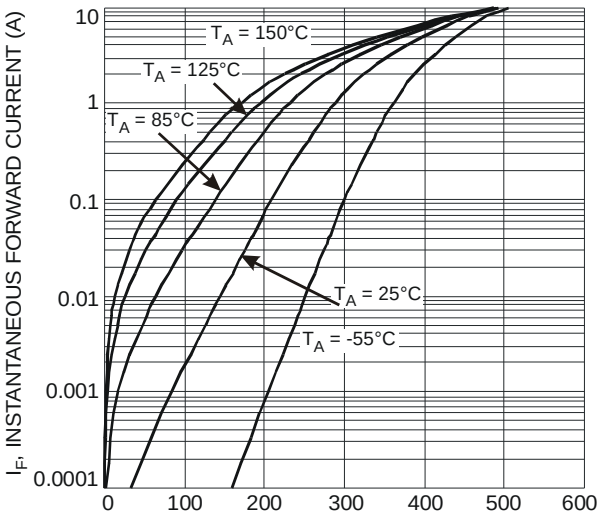


Fig.1 Typical Forward Characteristics

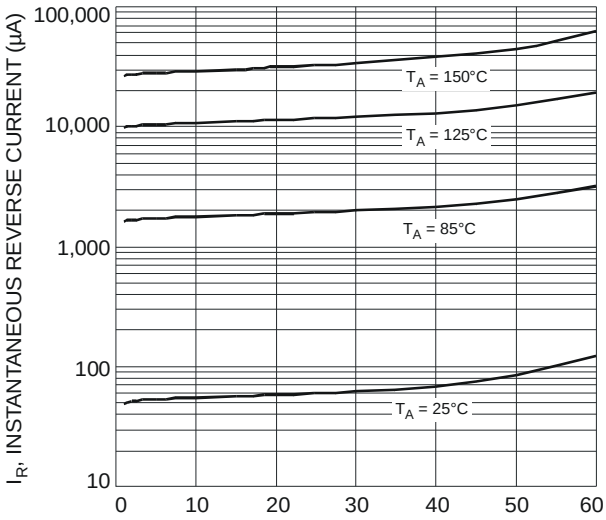


Fig. 2 Typical Reverse Characteristics

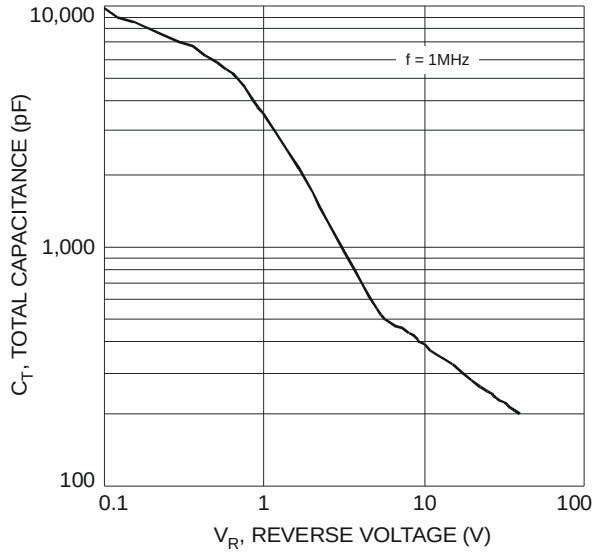


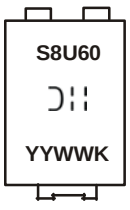
Fig. 3 Typical Total Capacitance

Ordering Information (Note 5)

Part Number	Case	Packaging
SBR8U60P5-13	PowerDI®5	5000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

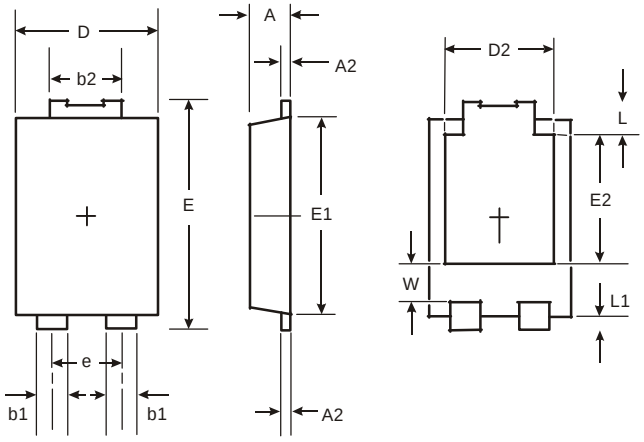
Marking Information



S8U60 = Product Type Marking Code
= Manufacturers' Code Marking
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 09 for 2009)
WW = Week Code 01 to 52
K = Factory Designator

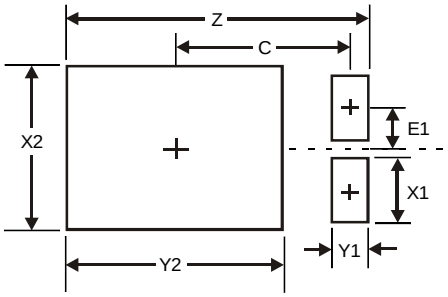
NEW PRODUCT

Package Outline Dimensions



PowerDI®5		
Dim	**Min**	**Max**
A	1.05	1.15
A2	0.33	0.43
b1	0.80	0.99
b2	1.70	1.88
D	3.90	4.05
D2	3.054 Typ	
E	6.40	6.60
e	1.84 Typ	
E1	5.30	5.45
E2	3.549 Typ	
L	0.75	0.95
L1	0.50	0.65
W	1.10	1.41
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	6.6
X1	1.4
X2	3.6
Y1	0.8
Y2	4.7
C	3.87
E1	0.9

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