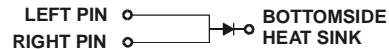
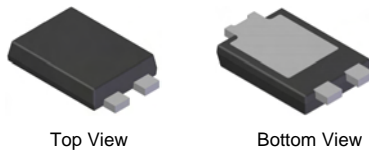


Features

- Ultra Low Forward Voltage Drop
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C 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-020
- Terminals: Finish - Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⁽³⁾
- Polarity: See Below
- Weight: 0.093 grams (approximate)



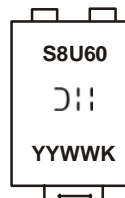
Note: Pins Left & Right must be electrically connected at the printed circuit board.

Ordering Information (Note 2)

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

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes*
2. For packaging details, go to our website at <http://www.diodes.com>.

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 - 53)
 K = Factory Designator

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}	60	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current @ $T_C = 140^\circ\text{C}$	I_O	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	280	A
Repetitive Peak Avalanche Power (1 μs , 25 $^\circ\text{C}$)	P_{ARM}	5,000	W

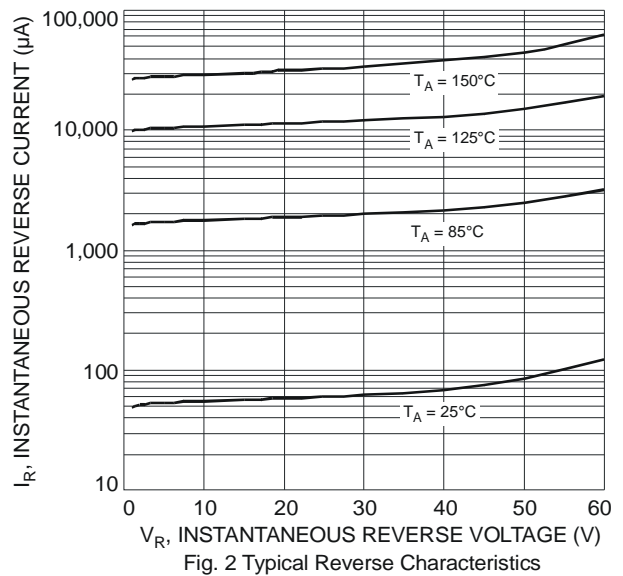
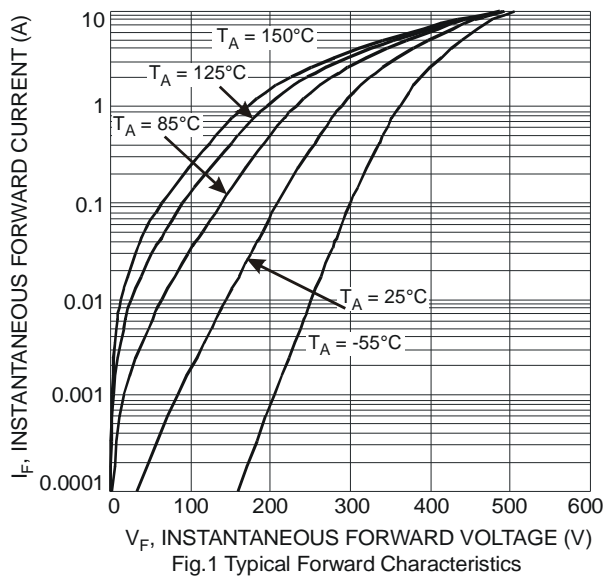
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance			
Thermal Resistance Junction to Soldering (Note 3)	$R_{\theta JS}$	3	$^\circ\text{C/W}$
Thermal Resistance Junction to Ambient (Note 4)	$R_{\theta JA}$	60	
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
Forward Voltage Drop	V_F	-	0.30	0.35	V	$I_F = 1.0\text{A}, T_J = 25^\circ\text{C}$
		-	0.46	0.53		$I_F = 8\text{A}, T_J = 25^\circ\text{C}$
		-	-	0.5		$I_F = 8\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 5)	I_R	-	0.12	0.6	mA	$V_R = 60\text{V}, T_J = 25^\circ\text{C}$
		-	-	100		$V_R = 60\text{V}, T_J = 125^\circ\text{C}$

- Notes:
- Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB cathode tab solder junction.
 - Polymide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.
 - Short duration pulse test used to minimize self-heating effect.



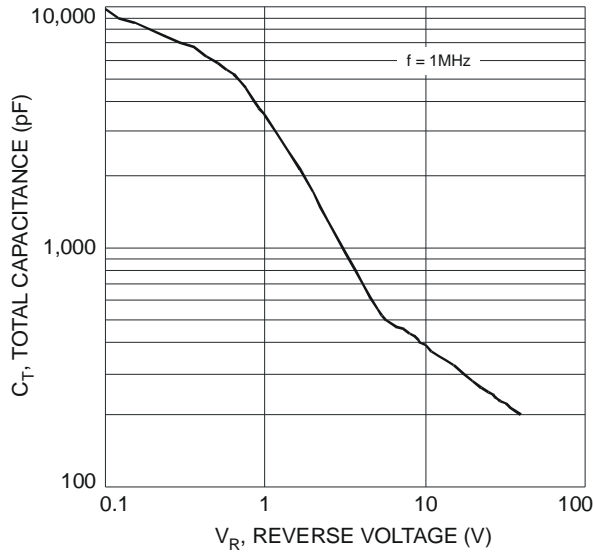


Fig. 3 Typical Total Capacitance

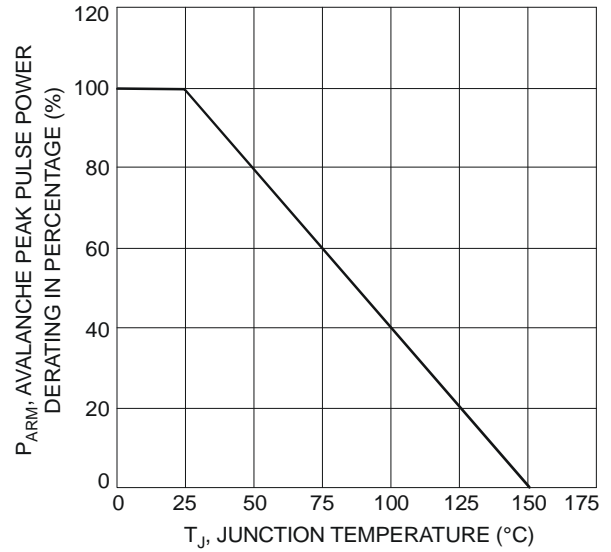


Fig. 4 Pulse Derating Curve

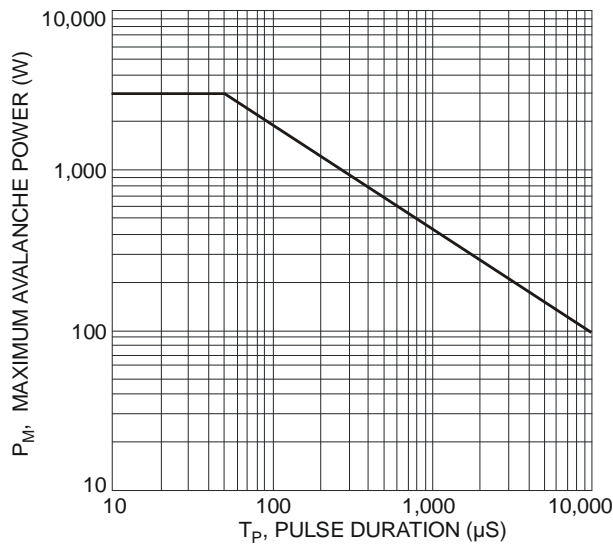
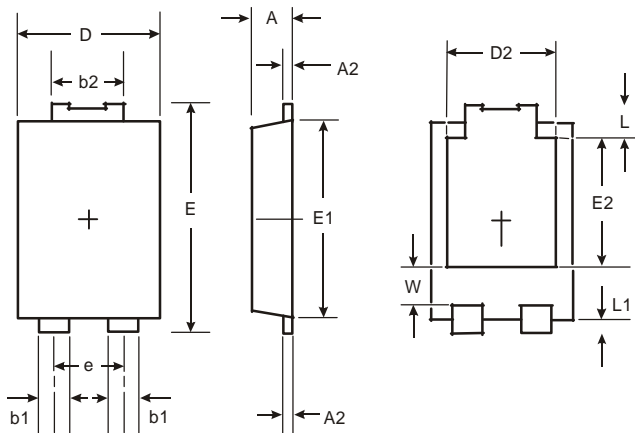


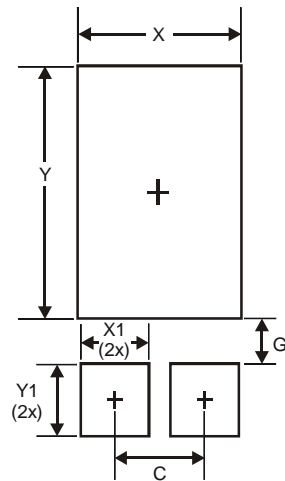
Fig. 5 Maximum Avalanche Power vs. Pulse Duration

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)
C	1.840
G	0.852
X	3.360
X1	1.390
Y	4.860
Y1	1.400

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