

## Product Summary

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F</sub> (MAX) (V) @ +25°C	I <sub>R</sub> (MAX) (mA) @ +25°C
60	25	0.6	0.15

## Description and Applications

Packaged in the compact thermally efficient PowerDI<sup>®</sup>5060-8 package, the SBRT25M60SLP provides low forward voltage and excellent reverse leakage stability at high temperatures. It is ideal for use as a rectifier, freewheel diode or blocking diode in:

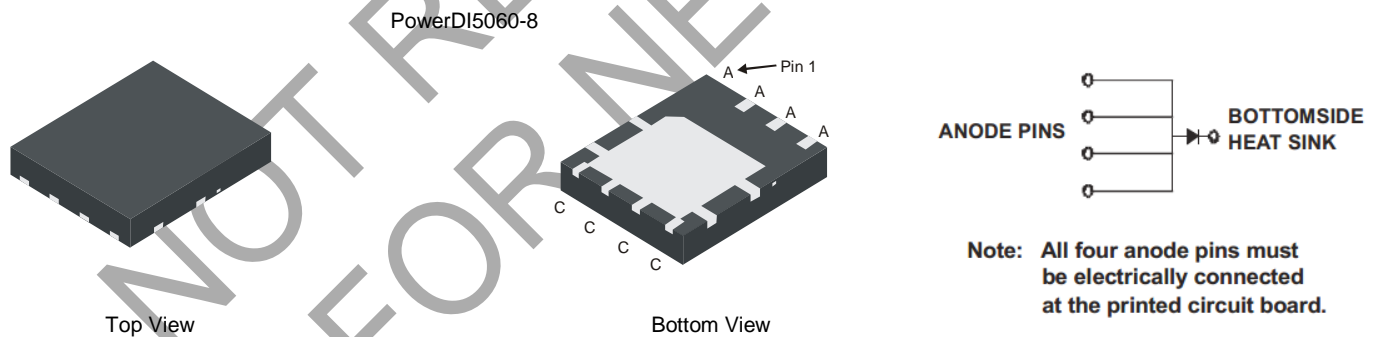
- DC-DC Converters
- AC-DC Adaptors

## Features and Benefits

- Reduced low forward voltage drop (V<sub>F</sub>) and reverse leakage (I<sub>R</sub>); better efficiency and cooler operation
- Reduced high temperature reverse leakage; Increased reliability against thermal runaway failure in high temperature operation
- Less than 1.1mm package profile – ideal for thin applications
- Patented Super Barrier Rectifier Technology (SBR<sup>®</sup>)
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free “Green” Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q- suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability.** <https://www.diodes.com/quality/product-definitions/>

## Mechanical Data

- Case: PowerDI5060-8
- 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 (E3)
- Polarity: See Below
- Weight: 0.097 grams (Approximate)



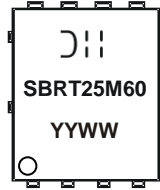
## Ordering Information (Note 4)

Part Number	Case	Packaging
SBRT25M60SLP-13	PowerDI5060-8	2500/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information

PowerDI5060-8



SBRT25M60 = Product Type Marking Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 21 = 2021)  
 WW = Week (01 to 53)

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	60	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current	I <sub>O</sub>	25	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	220	A

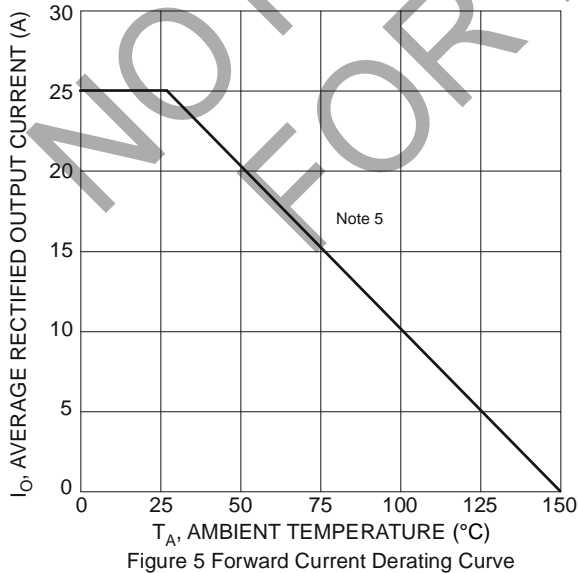
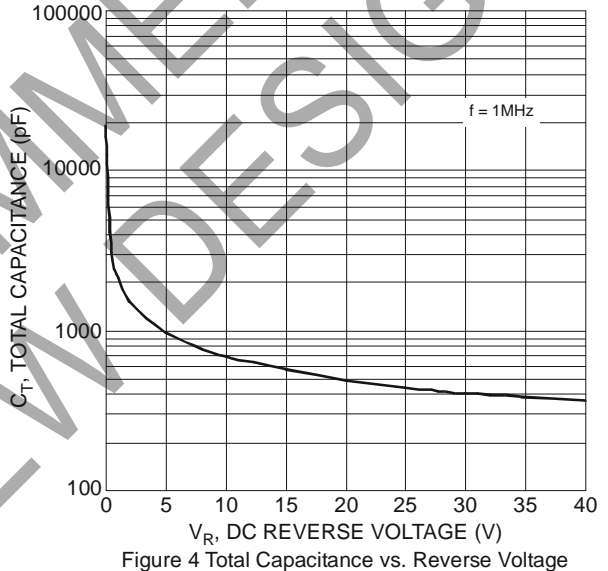
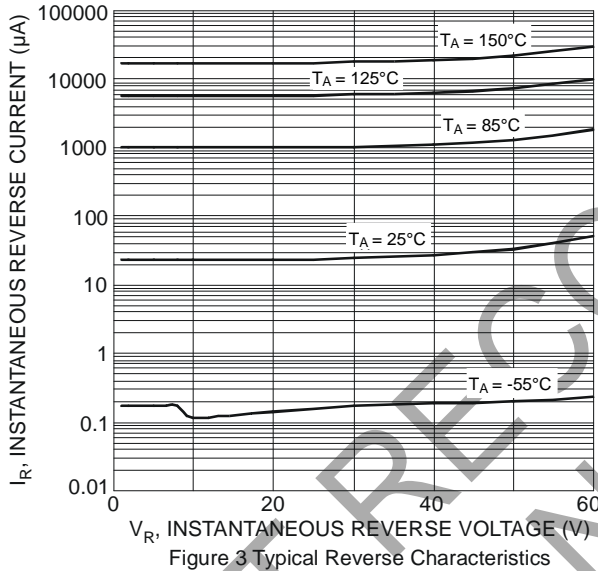
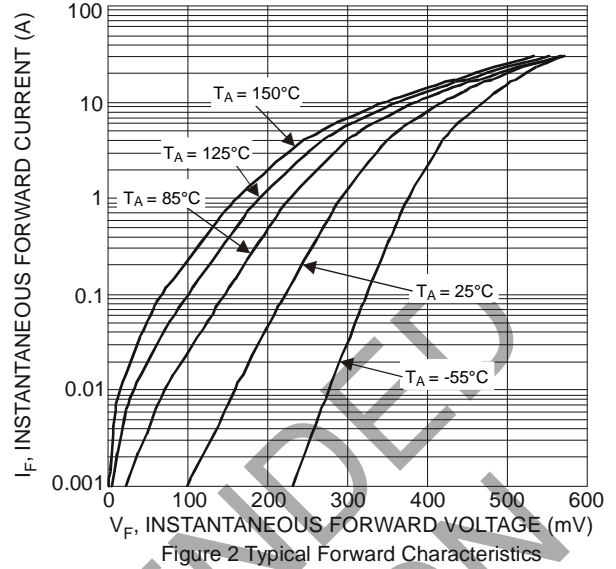
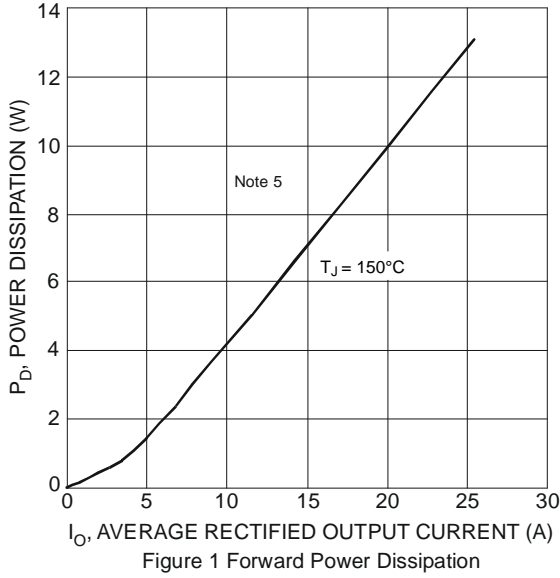
## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R <sub>θJA</sub>	10	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	R <sub>θJC</sub>	1	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (Note 6)	V <sub>F</sub>	—	0.45	0.52	V	I <sub>F</sub> = 12.5A, T <sub>J</sub> = +25°C
		—	0.54	0.6		I <sub>F</sub> = 25A, T <sub>J</sub> = +25°C
		—	—	0.58		I <sub>F</sub> = 25A, T <sub>J</sub> = +125°C
Leakage Current (Note 6)	I <sub>R</sub>	—	35	150	μA	V <sub>R</sub> = 60V, T <sub>J</sub> = +25°C
		—	—	50		mA

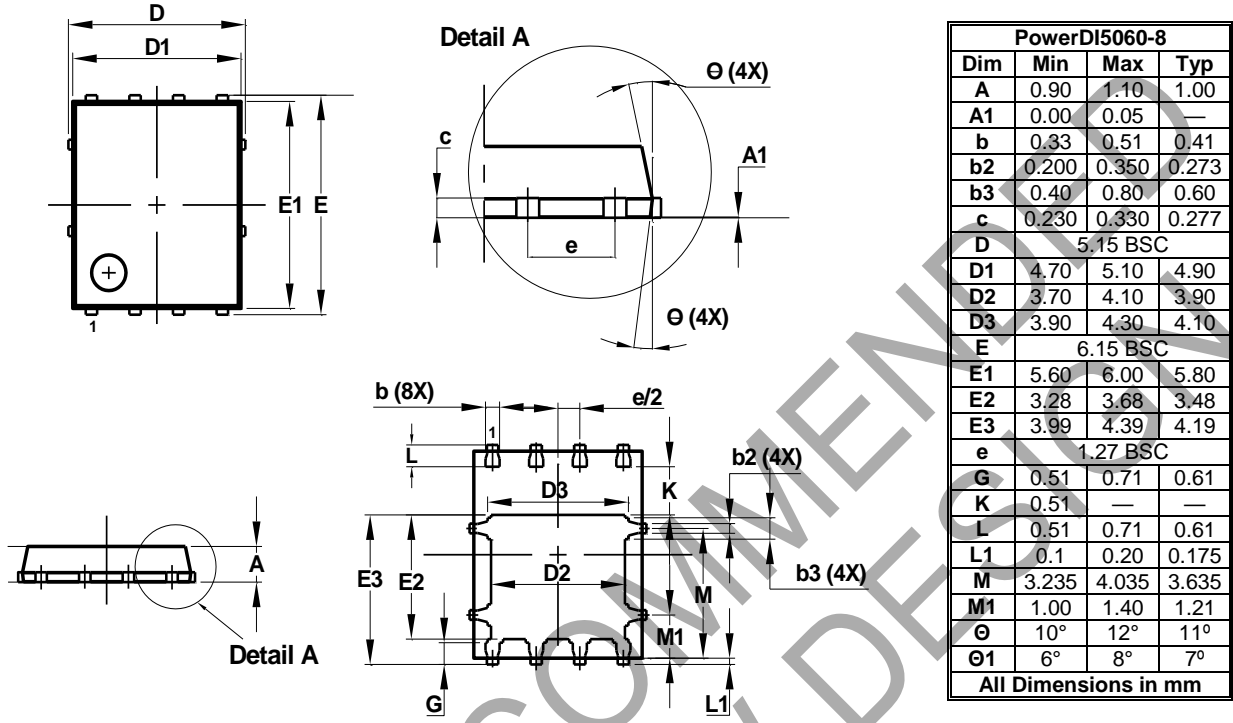
Notes: 5. Test with additional heatsink, (Al substrate with copper pad 30mm\*30mm + Black Aluminum 80mm\*48mm\*35mm)  
 6. Short duration pulse test used to minimize self-heating effect.



**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

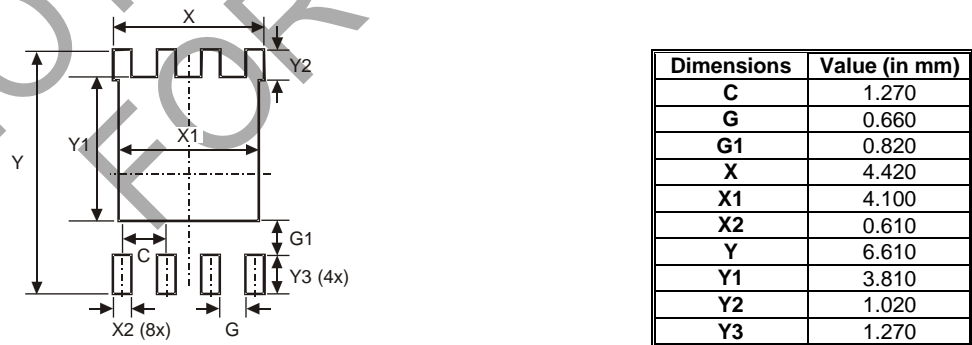
PowerDI5060-8



**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

PowerDI5060-8



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