



SBRT25U80SLP

25A TrenchSBR TRENCH SUPER BARRIER RECTIFIER POWERDI[®]5060

Product Summary

V _{RRM} (V)	I _O (A)	V _{F(MAX)} (V) @ +25°C	I _{R(MAX)} (mA) @ +25°C
80	25	0.61	0.5

Features and Benefits

- Reduced ultra-low forward voltage drop (V_F); 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
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Description and Applications

Packaged in the compact thermally efficient POWERDI5060-8 package, the SBRT25U80SLP provides very low V_F 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**

Mechanical Data

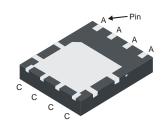
- Case: POWERDI5060-8
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 @3
- Polarity: See Below
- Weight: 0.097 grams (Approximate)

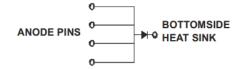
POWERDI5060-8

Top View

Bottom View







Note: All four anode pins must be electrically connected at the printed circuit board.

Ordering Information (Note 4)

Part Number	Case	Packaging
SBRT25U80SLP-13	POWERDI5060-8	2,500/Tape & Reel

Notes:

- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- 2. See http://www.diodes.com/quality/lead_free.html 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/products/packages.html.

Marking Information



SBRT25U80 = Product Type Marking Code YYWW = Date Code Marking YY = Last Two Digits of Year (ex: 15 = 2015) WW = Week (01-53)



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}	80	V
Average Rectified Output Current	Io	25	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	200	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	9	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	$R_{ heta JC}$	2	°C/W
Operating and Storage Temperature Range	T _{J,} T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop (Note 6)	VF		0.43 0.55	— 0.61	V	I _F = 12.5A, T _J = +25°C I _F = 25A, T _J = +25°C
Leakage Current (Note 6)	I _R	_	0.18 —	0.5 80	l mA	$V_R = 80V, T_J = +25$ °C $V_R = 80V, T_J = +125$ °C

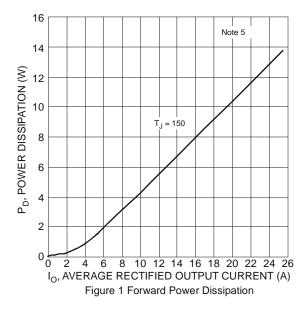
Notes:

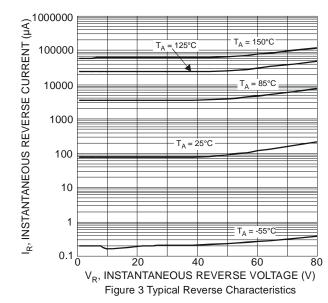
^{5.} Device mounted on aluminum substrate 2oz, 2-inch sq. and additional aluminum heatsink 50mm*50mm*23mm.

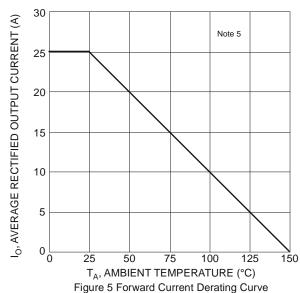
^{6.} Short duration pulse test used to minimize self-heating effect.

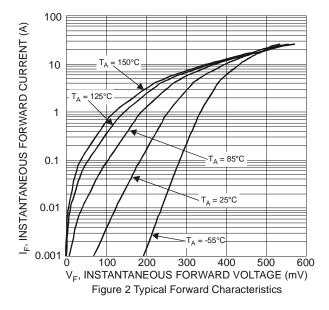


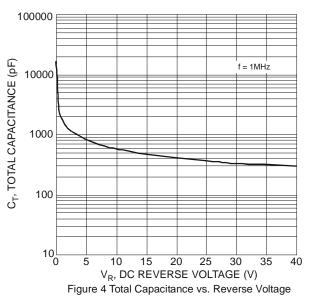










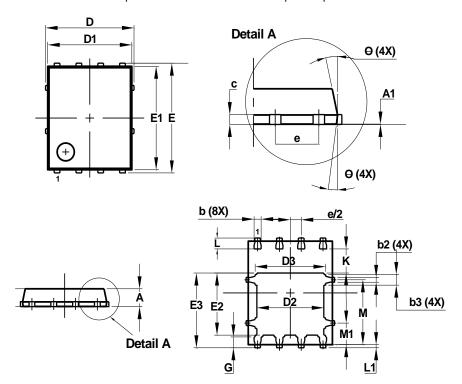


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Package Outline Dimensions

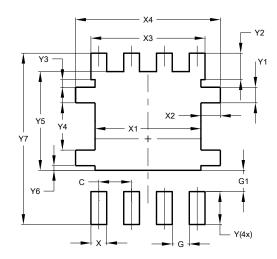
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



POWERDI5060-8				
Dim	Min	Max	Тур	
Α	0.90	1.10	1.00	
A1	0.00	0.05	_	
b	0.33	0.51	0.41	
b2	0.200	0.350	0.273	
b3	0.40	0.80	0.60	
С	0.230	0.330	0.277	
D	5	.15 BS0	\Box	
D1	4.70	5.10	4.90	
D2	3.70	4.10	3.90	
D3	3.90	4.30	4.10	
Е	6	.15 BS0	\sim	
E1	5.60	6.00	5.80	
E2	3.28	3.68	3.48	
E3	3.99	4.39	4.19	
е	1.27 BSC			
G	0.51	0.71	0.61	
K	0.51	-		
L	0.51	0.71	0.61	
L1	0.100	0.20	0.175	
M	3.235	4.035	3.635	
М1	1.00	1.40	1.21	
Θ	10°	12°	11º	
Θ1	6°	8°	7°	
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)
С	1.270
G	0.660
G1	0.820
X	0.610
X1	4.100
X2	0.755
Х3	4.420
X4	5.610
Υ	1.270
Y1	0.600
Y2	1.020
Y3	0.295
Y4	1.825
Y5	3.810
Y6	0.180
Y7	6.610



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