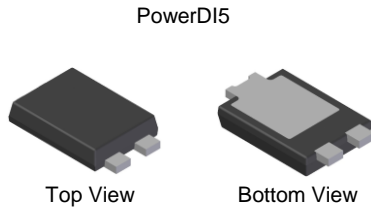


Features

- Designed as Bypass Diodes for Solar Panels
- Selectively Rated for +200°C Maximum Junction Temperature for High Thermal Reliability
- Patented Super Barrier Rectifier Technology
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

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 [Ⓜ]
- Weight: 0.093 grams (Approximate)



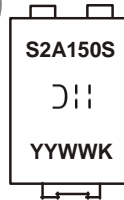
Note: Pins Left & Right must be electrically connected at the printed circuit board.

Ordering Information (Note 4)

Part Number	Case	Packaging
SBR2A150SP5-13	PowerDI5	5000/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



S2A150S = Product Type Marking Code
 ⌋|| = Manufacturers' Code Marking
 K = Factory Designator
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 17 for 2017)
 WW = Week Code (01 to 53)

OBSOLETE - PART DISCONTINUED

Maximum Ratings (@T_A = +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 _{RRM}	150	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current	I _O	2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	120	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R _{θJC}	20	°C/W
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	100	°C/W
Operating Temperature Range	T _J	V _R ≤ 80% V _{RRM}	-65 to +150
		V _R ≤ 50% V _{RRM}	≤180
		DC Forward Mode	≤200
Storage Temperature Range	T _{STG}	-65 to +175	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	150	—	—	V	I _R = 0.1mA
Forward Voltage Drop	V _F	—	—	0.8	V	I _F = 2A, T _J = +25°C
Leakage Current (Note 6)	I _R	—	—	100	μA	V _R = 150V, T _J = +25°C

Notes: 5. Device mounted on FR-4 substrate PC board, with minimum recommended pad layout as per <http://www.diodes.com/package-outlines.html>.
6. Short duration pulse test used to minimize self-heating effect.

OBSOLETE - PART DISCONTINUED

OBSOLETE

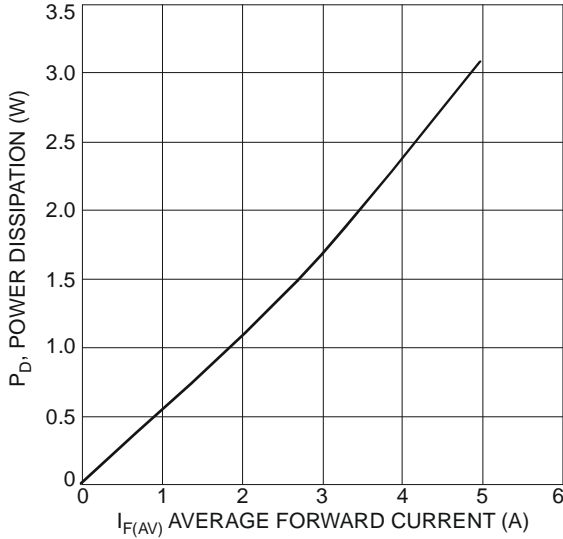


Figure 1 Forward Power Dissipation

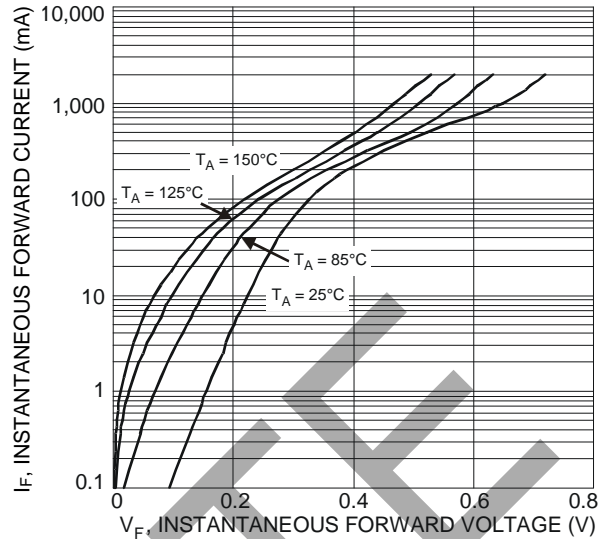


Figure 2 Typical Forward Characteristics

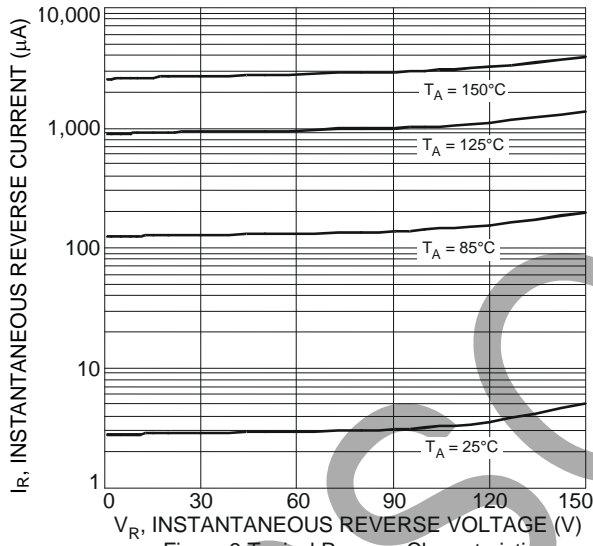


Figure 3 Typical Reverse Characteristics

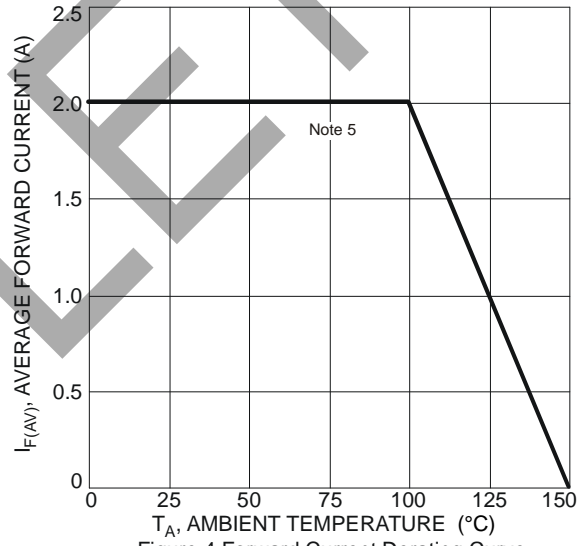


Figure 4 Forward Current Derating Curve

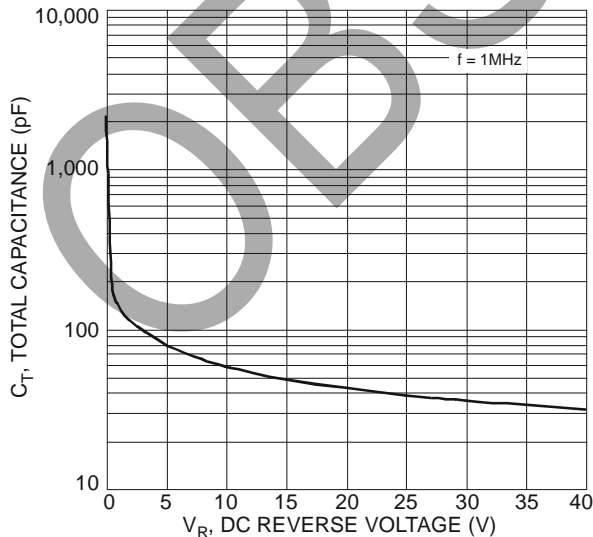


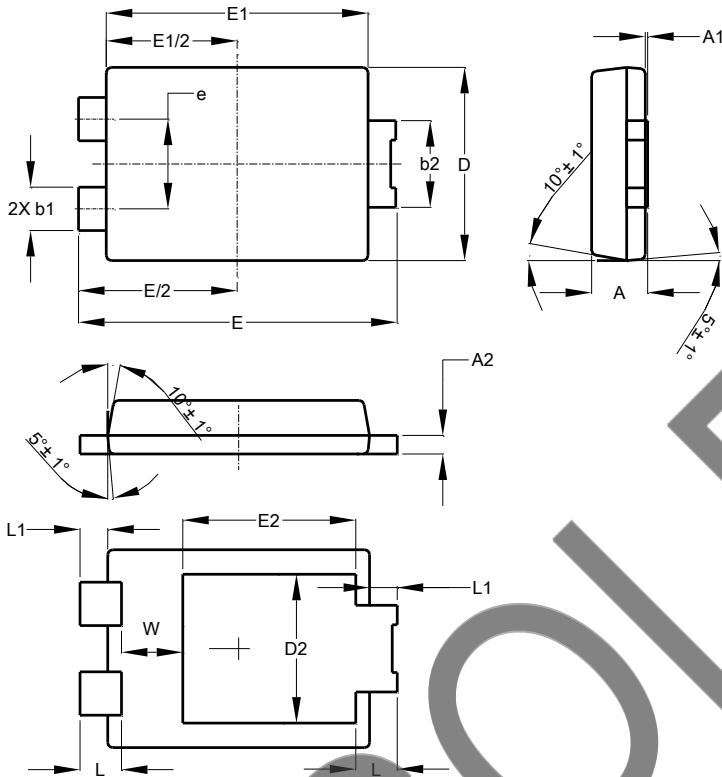
Figure 5 Total Capacitance vs. Reverse Voltage

OBSOLETE - PART DISCONTINUED

Package Outline Dimensions

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

PowerDI5

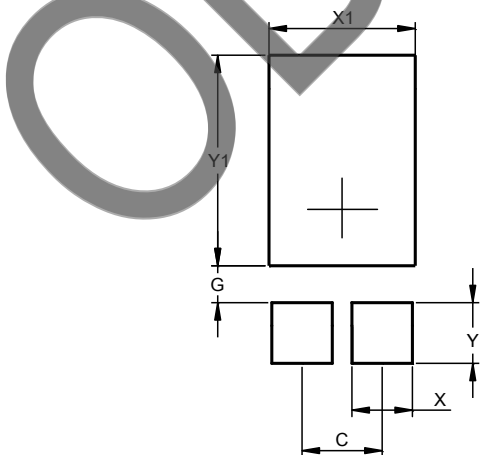


PowerDI5			
Dim	Min	Max	Typ
A	1.05	1.15	1.10
A1	0.00	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.054
E	6.40	6.60	6.504
e	--	--	1.84
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255
All Dimensions in mm			

Suggested Pad Layout

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

PowerDI5



Dimensions	Value (in mm)
C	1.840
G	0.852
X	1.390
X1	3.360
Y	1.400
Y1	4.860

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