



TRENCH SCHOTTKY BARRIER RECTIFIER PowerDI5

Product Summary (@ T_A = +25°C)

V _{RRM} (V)	I _O (A)	V _{F(MAX)} (V)	I _{R(MAX)} (mA)
100	8	0.7	0.1

Description and Applications

Packaged in the compact thermally efficient PowerDI®5 package, the SDT8A100P5 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

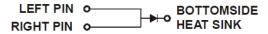
Features and Benefits

- Low Forward Voltage Drop
- **Excellent High Temperature Stability**
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- An Automotive-Compliant Part is Available Under Separate Datasheet (SDT8A100P5Q)

Mechanical Data

- Case: PowerDI5
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram Below
- 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
SDT8A100P5-7	PowerDI5	1,500/Tape & Reel
SDT8A100P5-7D (Note 5)	PowerDI5	1,500/Tape & Reel
SDT8A100P5-13	PowerDI5	5,000/Tape & Reel
SDT8A100P5-13D (Note 5)	PowerDI5	5,000/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 + CI) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.
 5. PowerDI5 available in 5k quantity on 13-inch reel & 12mm tape, part number suffix "13D"; Diodes Incorporated also provides 12mm tape with 7-inch reel, part number suffix "7D".

Marking Information



The Manufacturers' Marking D8A100 = Product Type Marking Code YYWW = Date Code Marking YY = Last Two Digits of Year (ex: 17 = 2017) WW = Week Code (01 to 53) K = Factory Designator



Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM}	100	٧
Average Rectified Output Current	Io	8	Α
Non-Repetitive Peak Forward Surge Current 8.3mS	I _{FSM}	150	Α

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 6)	$R_{\theta JA}$	88	°C/W
Typical Thermal Resistance Junction to Ambient (Note 7)	$R_{\theta JA}$	18	°C/W
Typical Thermal Resistance Junction to Case (Note 6)	R _{θJC}	9	°C/W
Typical Thermal Resistance Junction to Case (Note 7)	$R_{ heta JC}$	3	°C/W
Operating and Storage Temperature Range	$T_{J_i}T_{STG}$	-55 to +150	°C

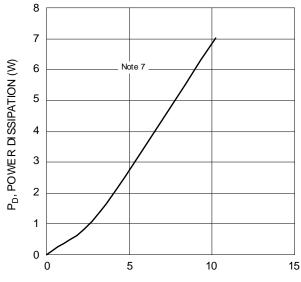
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

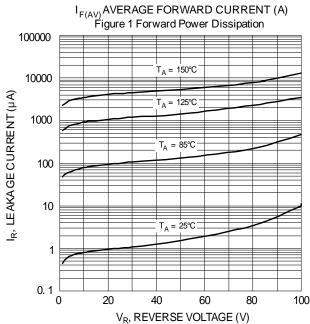
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	\/	_	_	0.70	V 1	$I_F = 8A, T_J = +25^{\circ}C$
	VF	_	_	0.66		$I_F = 8A, T_J = +125^{\circ}C$
Leakage Current (Note 8)	,	_	_	0.1	A	V _R = 100V , T _J = +25°C
	IR	_	_	20	mA	$V_R = 100V$, $T_J = +125$ °C

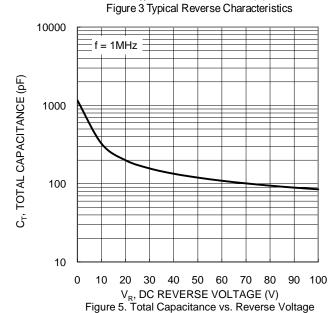
Notes:

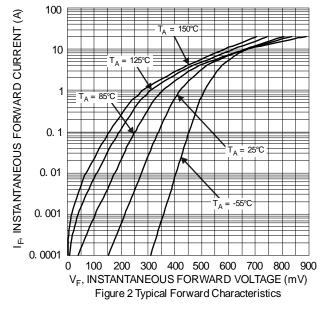
- 6. FR-4 PCB, 2oz. Copper, minimum recommended pad layout per http://www.diodes.com/package-outlines.html.
- 7. Aluminum 2inch x 2inch substrate PCB.
- 8. Short duration pulse test used to minimize self-heating effect.

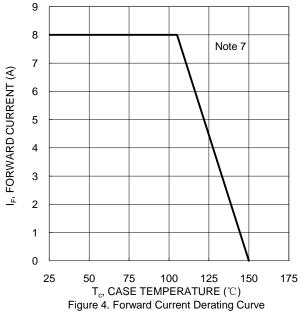










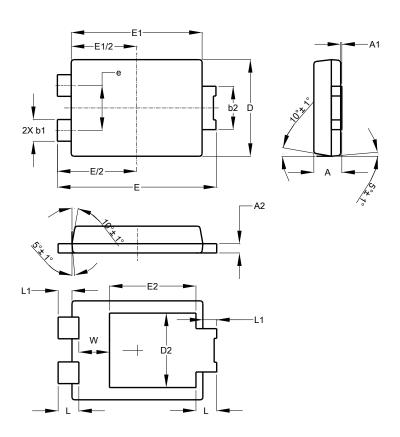




Package Outline Dimensions

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

PowerDI5

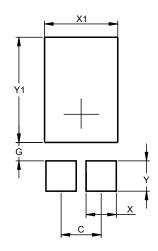


PowerDI5				
Dim	Min	Max	Тур	
Α	1.05	1.15	1.10	
A1	0.00	0.05		
A2	0.33	0.43	0.381	
b1	0.80	0.99	0.89	
b2	1.70	1.88	1.78	
D	3.90	4.05	3.966	
D2			3.054	
Е	6.40	6.60	6.504	
е			1.84	
E1	5.30	5.45	5.37	
E2			3.549	
L	0.75	0.95	0.85	
L1	0.50	0.65	0.57	
W	1.10	1.41	1.255	
All Dimensions in mm				

Suggested Pad Layout

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

PowerDI5



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



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