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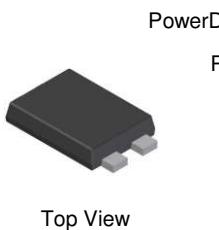
**Product Summary** (@ T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F(MAX)</sub> (V)	I <sub>R(MAX)</sub> (μA)
100	5	0.82	4

**Description and Applications**

Packaged in the compact thermally efficient PowerDI<sup>®</sup>5 package, the SDT5100LP5 provides very low V<sub>F</sub> and excellent reverse leakage stability at high temperatures. It is ideal for use as a rectifier, freewheel diode or blocking diode in:

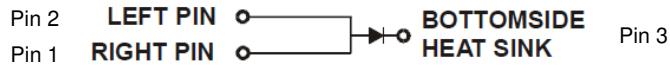
- DC-DC Converters
- AC-DC Adaptors

**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)**

**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)



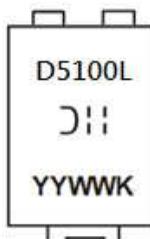
**Note:** Pins Left & Right must be electrically connected at the printed circuit board.

**Ordering Information** (Note 4)

Part Number	Reel Size (Inches)	Tape Width (mm)	Packaging
SDT5100LP5-7	7	16	1,500/Tape & Reel
SDT5100LP5-7D	7	12	1,500/Tape & Reel
SDT5100LP5-13	13	16	5,000/Tape & Reel
SDT5100LP5-13D	13	12	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](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**

D51 = Manufacturers' Marking  
D5100L = 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** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage			
Working Peak Reverse Voltage	$V_{RRM}$	100	V
DC Blocking Voltage			
Average Rectified Output Current	$I_O$	5	A
Non-Repetitive Peak Forward Surge Current 8.3mS	$I_{FSM}$	120	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	88	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	9	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance Junction to Ambient (Note 6)	$R_{\theta JA}$	18	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance Junction to Case (Note 6)	$R_{\theta JC}$	3	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

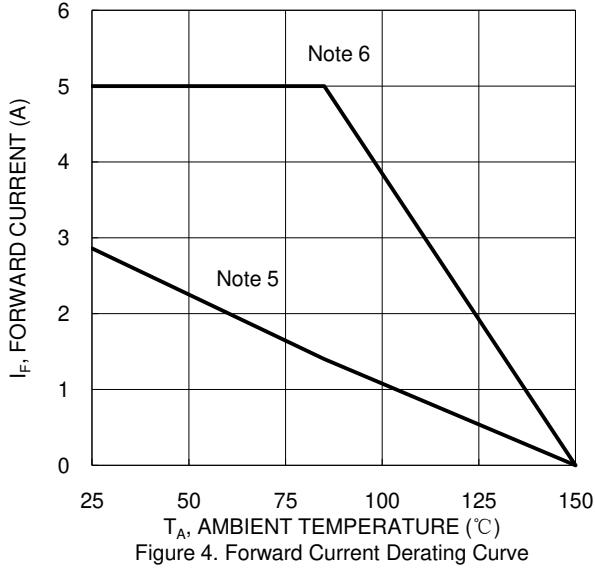
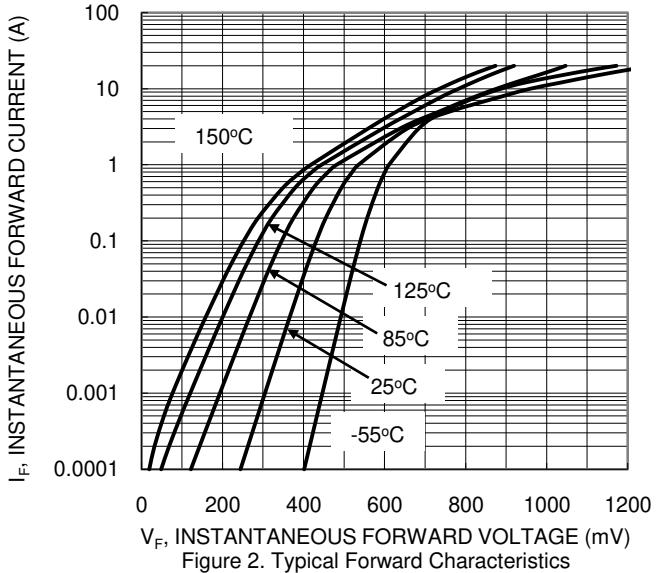
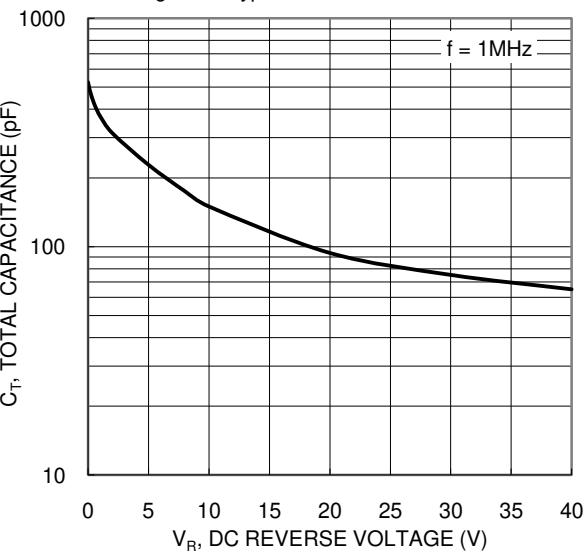
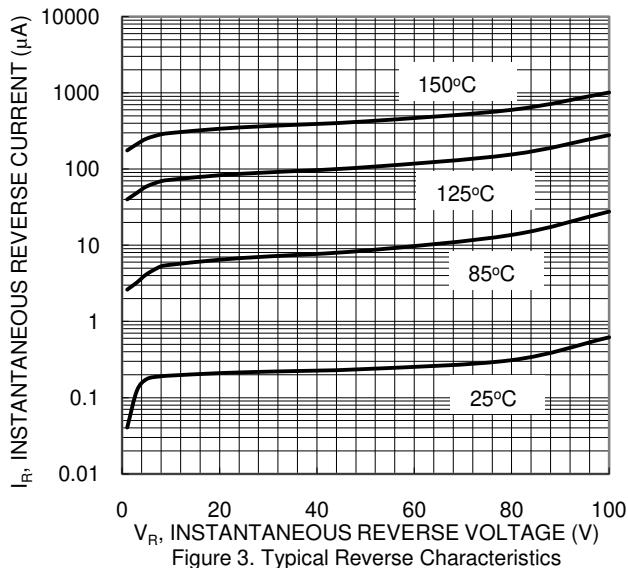
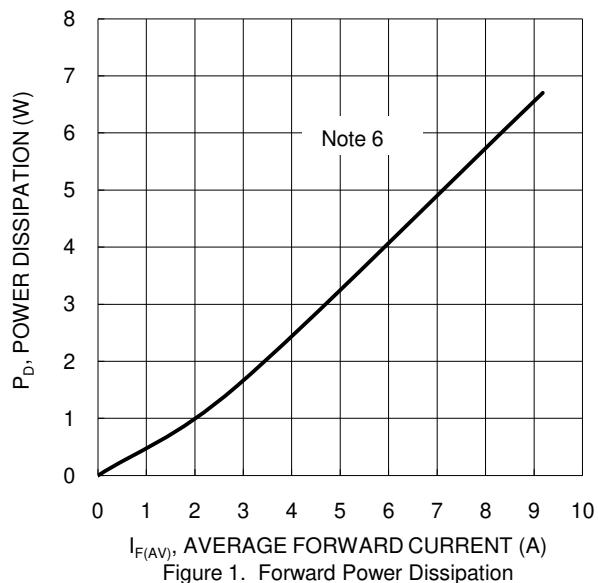
**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	—	0.76 0.68	0.82 0.74	V	$I_F = 5\text{A}, T_J = +25^\circ\text{C}$ $I_F = 5\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 7)	$I_R$	—	— 0.3	4 3	$\mu\text{A}$ mA	$V_R = 100\text{V}, T_J = +25^\circ\text{C}$ $V_R = 100\text{V}, T_J = +125^\circ\text{C}$

Notes: 5. FR-4 PCB, 2oz. Copper, minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.

6. Aluminum 2inch x 2inch substrate PCB.

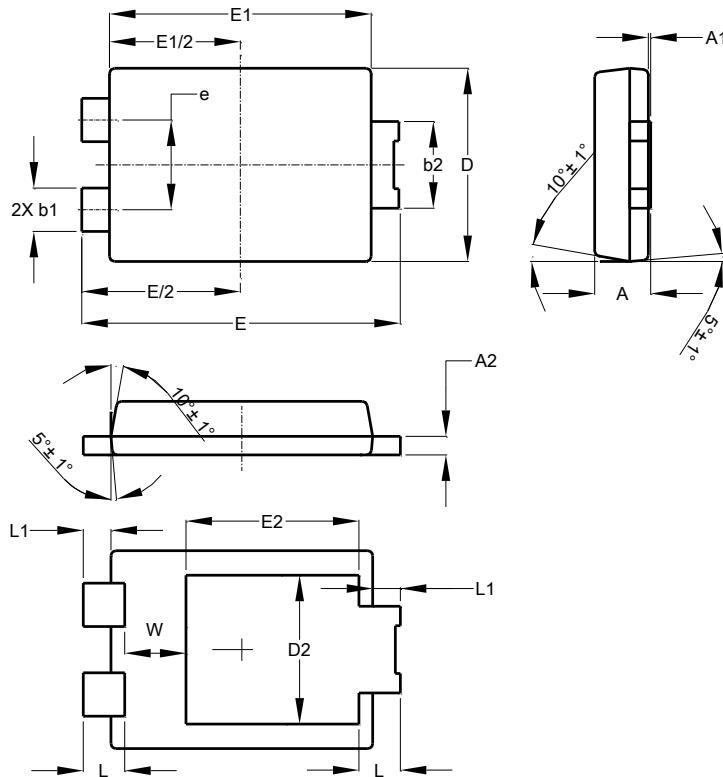
7. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

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

PowerDI5



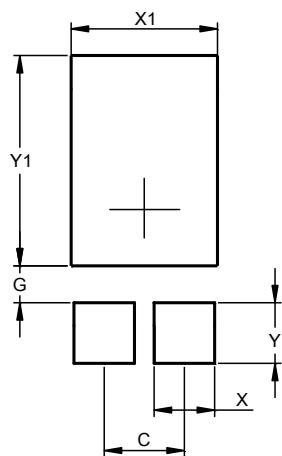
PowerDI5			
Dim	Min	Max	Typ
<b>A</b>	1.05	1.15	1.10
<b>A1</b>	0.00	0.05	--
<b>A2</b>	0.33	0.43	0.381
<b>b1</b>	0.80	0.99	0.89
<b>b2</b>	1.70	1.88	1.78
<b>D</b>	3.90	4.05	3.966
<b>D2</b>	--	--	3.054
<b>E</b>	6.40	6.60	6.504
<b>e</b>	--	--	1.84
<b>E1</b>	5.30	5.45	5.37
<b>E2</b>	--	--	3.549
<b>L</b>	0.75	0.95	0.85
<b>L1</b>	0.50	0.65	0.57
<b>W</b>	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)
<b>C</b>	1.840
<b>G</b>	0.852
<b>X</b>	1.390
<b>X1</b>	3.360
<b>Y</b>	1.400
<b>Y1</b>	4.860

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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