

Product Summary (@T_A = +25°C)

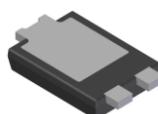
V _{RRM} (V)	I _o (A)	V _F Max (V)	I _R Max (µA)
600	10	1.35	8

Description

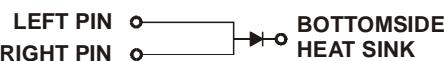
The DTH1006P5, a 10A glass passivated rectifier in our thermally efficient PowerDI®5 package, offers high-surge current capability, low-leakage current and fast reverse-recovery time.



Top View



Bottom View



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

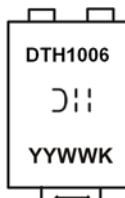
Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
DTH1006P5-7	PowerDI5	1500	Tape & Reel
DTH1006P5-13	PowerDI5	5000	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



DTH1006 = Product Type Marking Code

DII = Manufacturers' Code Marking

YYWW = Date Code Marking

YY = Last Two Digits of Year (ex: 25 for 2025)

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	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	600	V
DC Blocking Voltage	V_R		
Average Rectified Output Current	I_O	10	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)	$R_{\theta JC}$	7	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	80	$^\circ\text{C/W}$
Operating and Storage Temperature Range (Note 6)	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

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

6. The heat generated must be less than the thermal conductivity from junction to case: $dP_D/dT_J < 1/R_{\theta JC}$ or junction to ambient: $dP_D/dT_J < 1/R_{\theta JA}$.

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	600	—	—	V	$I_R = 8\mu\text{A}$
Forward Voltage	V_F	—	1.1	1.35	V	$I_F = 10\text{A}, T_S = +25^\circ\text{C}$
Reverse Leakage Current	I_R	—	0.6 16	8 200	μA	$V_R = 600\text{V}, T_J = +25^\circ\text{C}$ $V_R = 600\text{V}, T_J = +125^\circ\text{C}$
Reverse-Recovery Time	t_{RR}	—	35	—	ns	$I_F = 0.5\text{A}, I_R = 1.0\text{A},$ $I_{RR} = 0.25\text{A}$
Total Capacitance	C_T	—	75	—	pF	$V_R = 4.0\text{V}_{\text{DC}}, f = 1\text{MHz}$

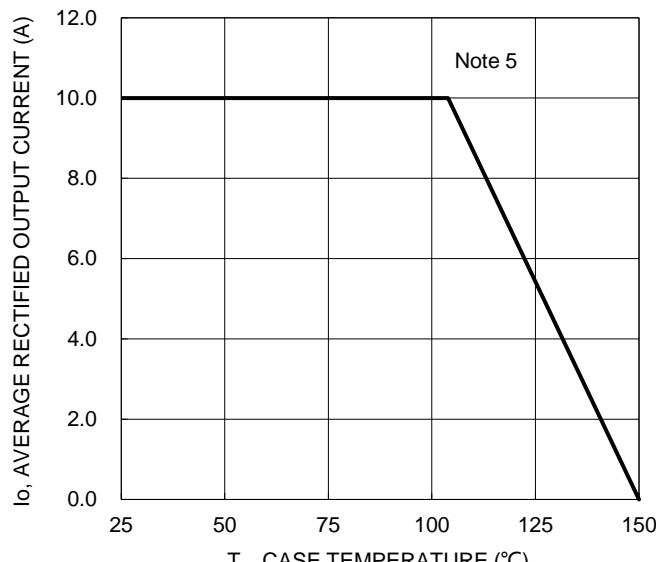


Figure 1. DC Forward Current Derating

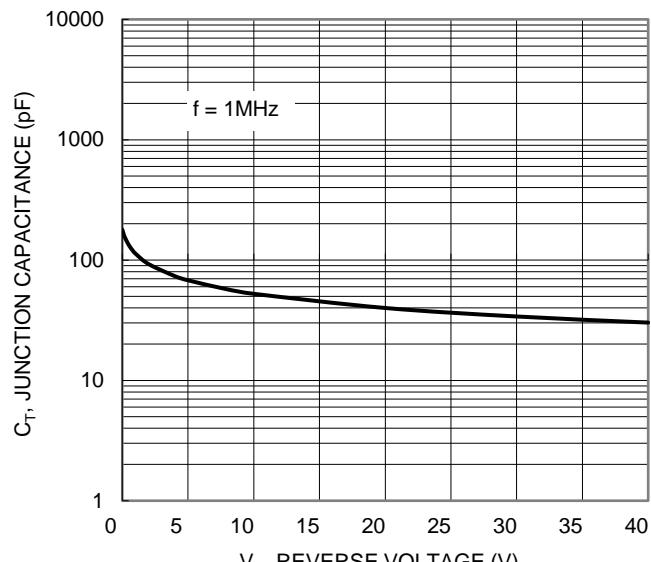


Figure 2. Typical Junction Capacitance

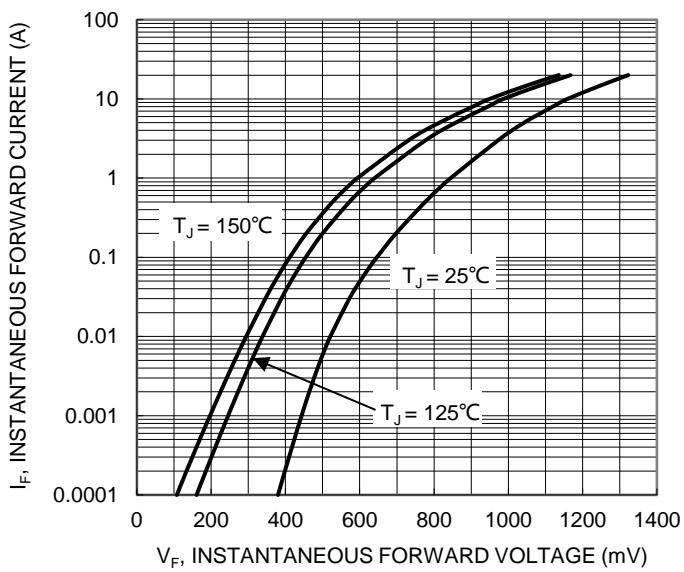


Figure 3. Typical Forward Characteristics

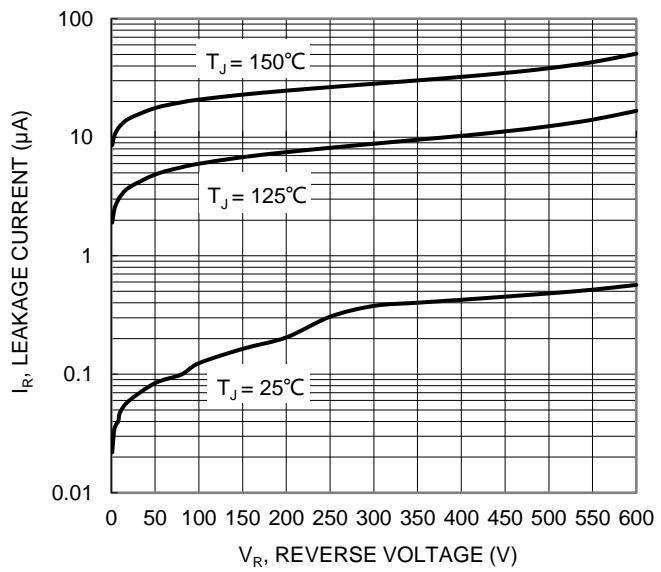


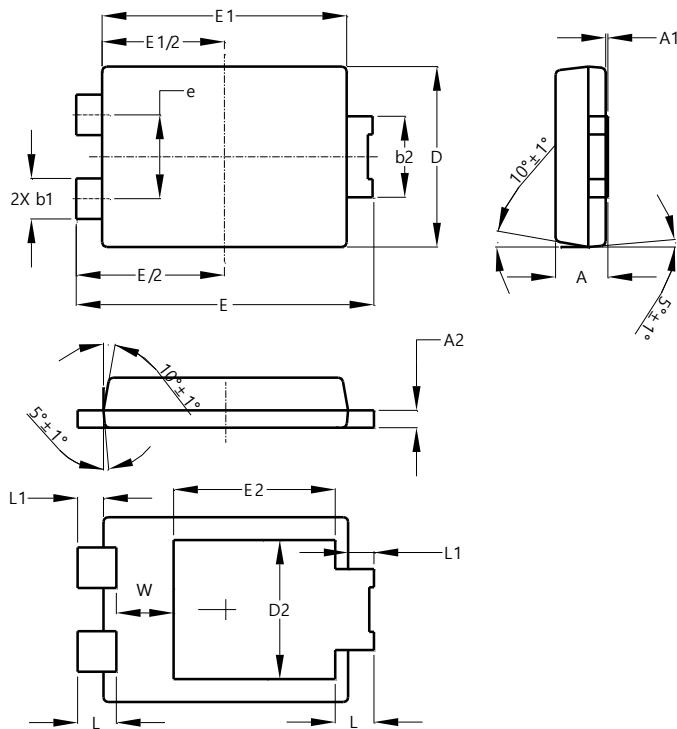
Figure 4. Typical Reverse Characteristics

Note: 5. Device mounted on FR-4 PCB, 2oz. copper, minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.

Package Outline Dimensions

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

PowerDI5



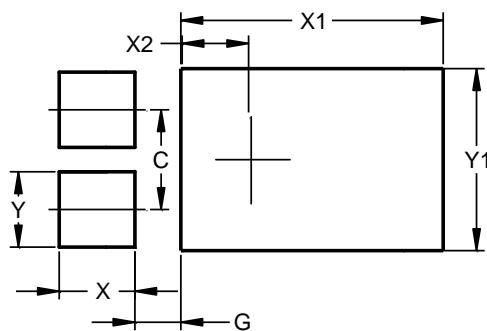
PowerDI5			
Dim	Min	Max	Typ
A	1.05	1.15	1.10
A1	0.00	0.05	--
A2	0.33	0.43	0.381
b1	0.80	0.99	0.89
b2	1.70	1.88	1.78
D	3.90	4.05	3.966
D2	--	--	3.054
E	6.40	6.60	6.51
e	--	--	1.84
E1	5.30	5.45	5.37
E2	--	--	3.549
L	0.75	0.95	0.85
L1	0.50	0.65	0.57
W	1.10	1.41	1.255

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	1.400
X1	4.860
X2	1.310
Y	1.390
Y1	3.360

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