DTH810FP

8A HYPER-FAST EPITAXIAL RECTIFIER

Product Summary (@ T_A = +25°C)

V_{RRM} (V)	I_O (A)	V_F (V)	I_R (µA)	t_{RR} (ns)
1000	8	2.0	5	85

Features and Benefits

- Soft, Hyper Fast Switching Capability
- Glass Passivated Die Construction
- Specially Suited for Discontinuous or Critical Mode
- Power Factor Corrections
- High Reliability and Efficiency
- Low Forward Voltage Drop
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

Description and Applications

The hyper-fast DTH810FP is suitable for rectification and freewheeling for SMPS, LED lighting, adapters, battery chargers, home appliances, office equipment, and telecommunication applications.

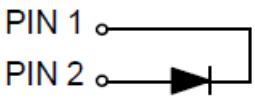
Mechanical Data

- Package: ITO220AC
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Terminals: Finish—Matte Tin Annealed over Copper Lead-Frame. Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Diagram
- Weight: 1.522 grams (Approximate)

ITO220AC (Type WX)

Top View

Top View Pin-Out



Ordering Information (Note 4)

Part Number	Qualification	Package	Packing	
			Qty.	Carrier
DTH810FP	Commercial	ITO220AC (Type WX)	50 Pieces	Tube

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

ITO220AC (Type WX)

DTH810FP = Product Type Marking Code
YYWW = Date Code Marking
YY = Last Two Digits of Year (ex: 21 for 2021)
WW = Week Code (01 to 53)

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	1000	V
Average Rectified Output Current @T_C = +95°C	I_O	8	A
Non-Repetitive Peak Forward Surge Current 10ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	80	A
Maximum Mounting Torque	T_{OR}	0.5	N.m

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	5	°C/W
Typical Thermal Resistance Junction to Lead (Note 5)	$R_{\theta JL}$	6	°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	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	1000	—	—	V	I_R = 5μA
Forward Voltage (Note 7)	V_F	— —	— 1.4	2.0 1.8	V	I_F = 8A, T_J = +25°C I_F = 8A, T_J = +125°C
Reverse Leakage Current (Note 6)	I_R	—	— 20	5 —	μA mA	V_R = 1000V, T_J = +25°C V_R = 1000V, T_J = +125°C
Reverse Recovery Time	t_{RR}	— —	65 48	85 65	ns	V_R = 30V, I_F = 1A, dI_F/dt = -50A/μs V_R = 30V, I_F = 1A, dI_F/dt = -100A/μs
Reverse Recovery Current	I_{RM}	—	13	—	A	V_R = 400V, I_F = 8A, dI_F/dt = -200A/μs
Total Capacitance	C_J	—	40	—	pF	V_R = 4V_{DC}, f = 1MHz

Notes: 5. The unit mounted on fin type heatsink (100mmX75mmX27mm).
6. Short duration pulse test used to minimize self-heating effect.
7. 300μs pulse width, 2% duty cycle.

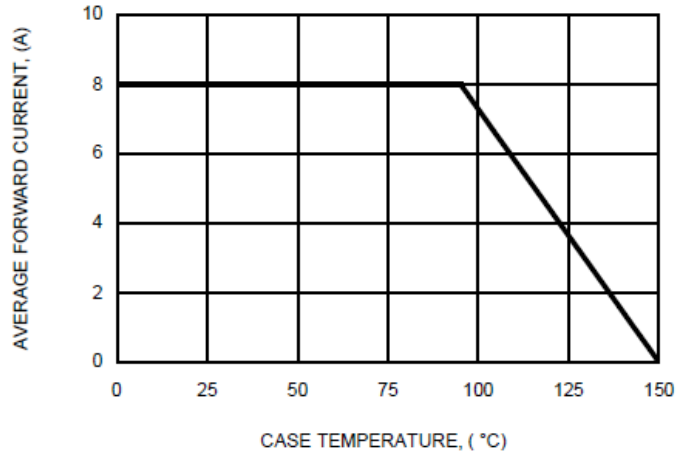


Fig. 1 FORWARD CURRENT DERATING CURVE

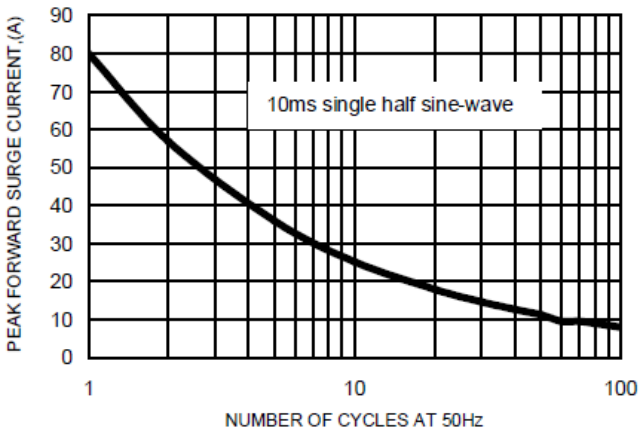


Fig. 2 MAXIMUM NON-REPETITIVE SURGE CURRENT

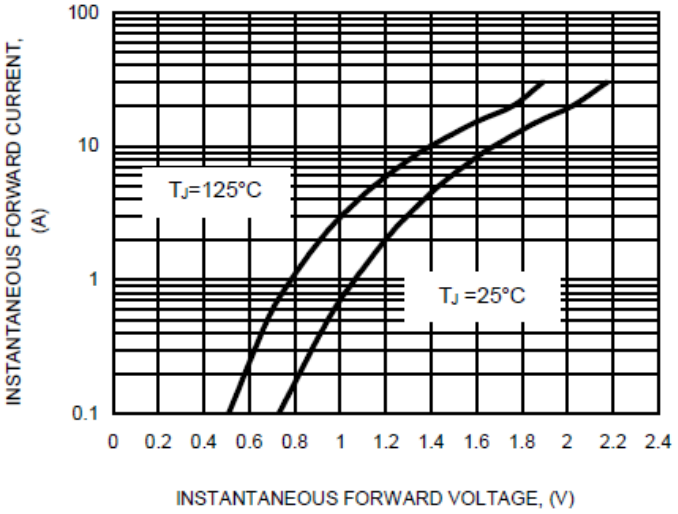


Fig. 3 TYPICAL FORWARD CHARACTERISTICS

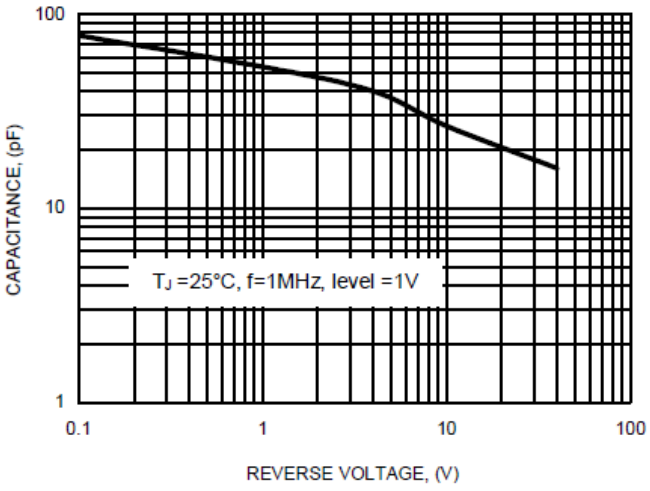


Fig. 4 TYPICAL TOTAL CAPACITANCE

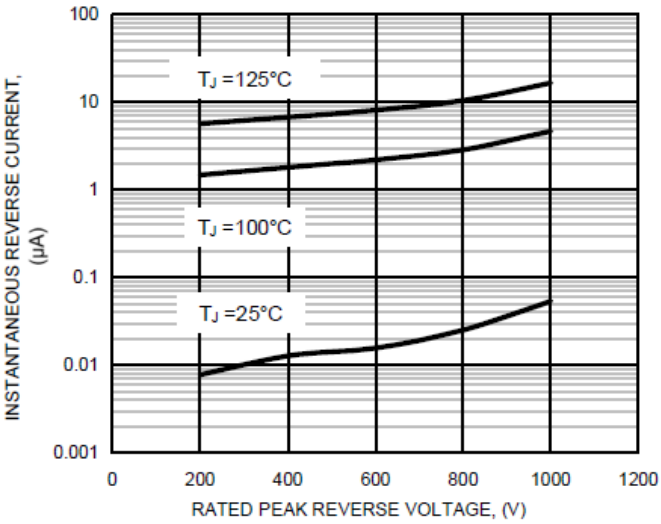
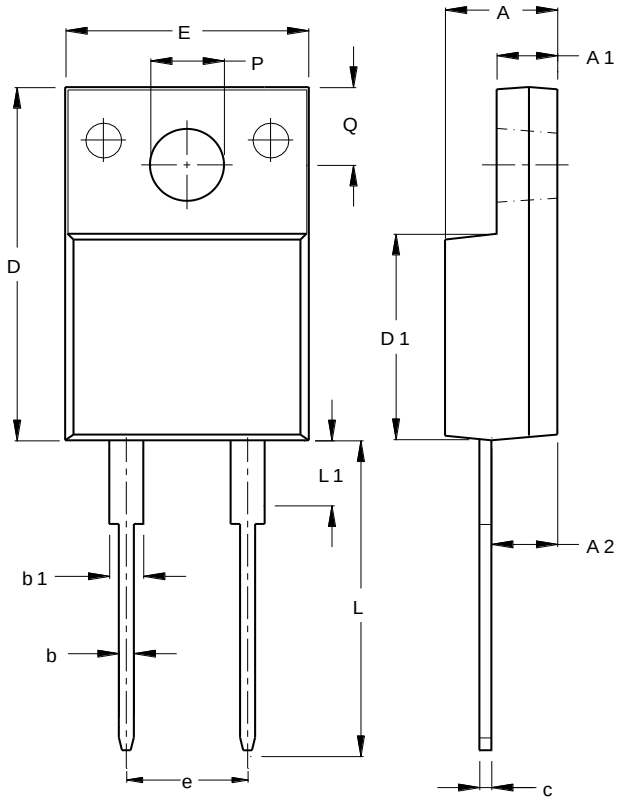


Fig. 5 TYPICAL REVERSE CHARACTERISTICS

Package Outline Dimensions

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

ITO220AC (Type WX)



ITO220AC (Type WX)		
Dim	**Min**	**Max**
A	4.46	4.87
A1	2.48	2.80
A2	2.50	2.80
b	0.50	0.80
b1	1.15	1.70
c	0.45	0.70
D	14.95	15.95
D1	8.50	8.80
E	10.00	10.40
e	4.95	5.25
L	13.00	13.70
L1	3.30	3.90
Q	2.76	3.36
PØ	3.00	3.30
All Dimensions in mm		

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