

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

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> (V)	I <sub>R</sub> (μA)	T <sub>RR</sub> (ns)
600	8	1.30	8	70

**Features and Benefits**

- Soft, Hyper fast switching capability
- 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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

**Description and Applications**

Suitable for rectification and freewheeling for SMPS, LED lighting, adapters, battery chargers, home appliances, office equipment, and telecommunication applications.

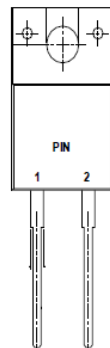
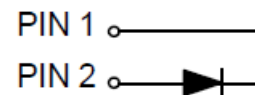
**Mechanical Data**

- Case: ITO-220AC (Type WX)
- 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 Lead-Frame. Solderable per MIL-STD-202, Method 208 <sup>Ⓔ</sup>
- Polarity: See Diagram
- Weight: 1.522 grams (Approximate)



Top View

ITO-220AC(WX)

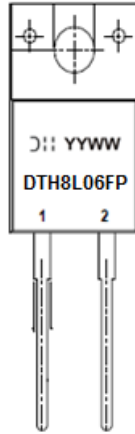

 Top View  
Pin-Out

**Ordering Information** (Note 4)

Part Number	Qualification	Case	Packaging
DTH8L06FP	Commercial	ITO220AC (Type WX)	50 pieces/tube

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  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

ITO-220AC (Type WX)



DTH8L06FP = Product Type Marking Code  
 DTH = Manufacturers' Code Marking  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 20 for 2020)  
 WW = Week Code (01 - 53)

## Maximum Ratings (@ $T_A = 25^\circ\text{C}$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
Average Rectified Output Current	$I_O$	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	120	A
$I_2t$ Rating for fusing ( $3\text{ms} \leq t \leq 8.3\text{ms}$ )	$I_2t$	60	$\text{A}^2\text{s}$
Maximum mounting torque	Tor	0.5	N·m

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	9	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Lead (Note 5)	$R_{\theta JL}$	10	$^\circ\text{C/W}$
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
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	600	—	—	V	$I_R = 20\mu\text{A}$
Forward Voltage (Note 7)	$V_F$	—	1.15 0.94	1.30 1.05	V	$I_F = 8\text{A}, T_J = +25^\circ\text{C}$ $I_F = 8\text{A}, T_J = +125^\circ\text{C}$
Reverse Leakage Current (Note 6)	$I_R$	—	0.1 50	8 —	$\mu\text{A}$ mA	$V_R = 600\text{V}, T_J = +25^\circ\text{C}$ $V_R = 600\text{V}, T_J = +125^\circ\text{C}$
Reverse Recovery Time	$t_{rr}$	—	47	70	ns	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$

Notes: 5. The unit mounted on fin type heatsink (50.1mm x 50.2mm x 22mm)  
 6. Short duration pulse test used to minimize self-heating effect.  
 7. 300 $\mu\text{s}$  pulse width, 2% duty cycle 8.

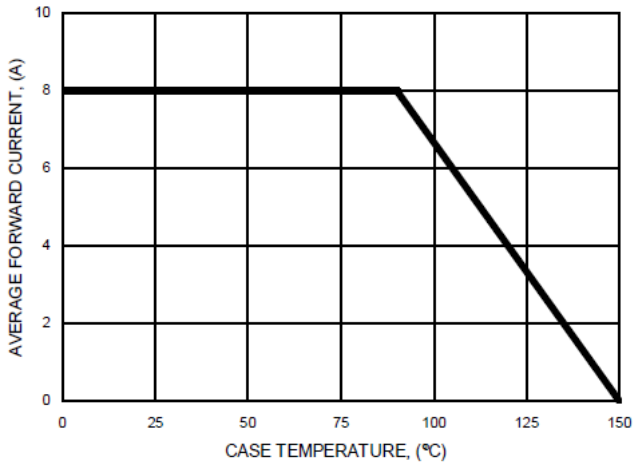


FIG.1- FORWARD CURRENT DERATING CURVE

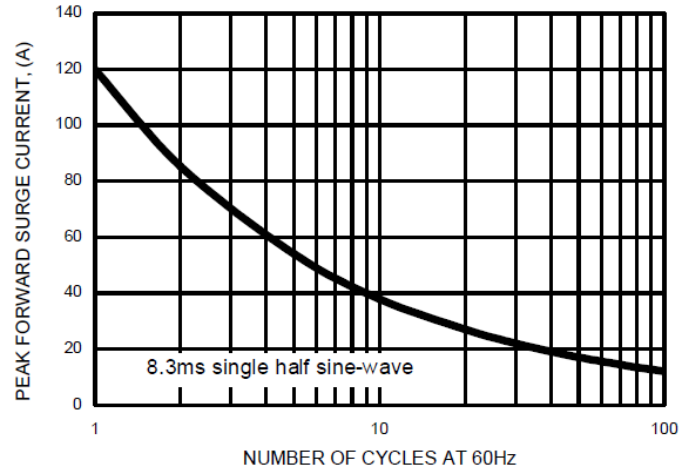


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

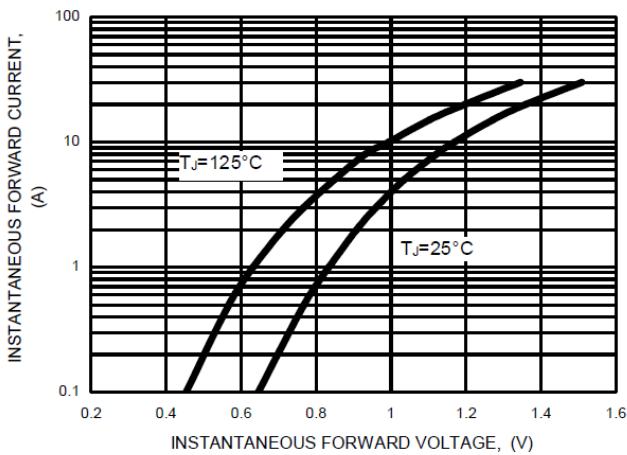


FIG.3- TYPICAL FORWARD CHARACTERISTICS

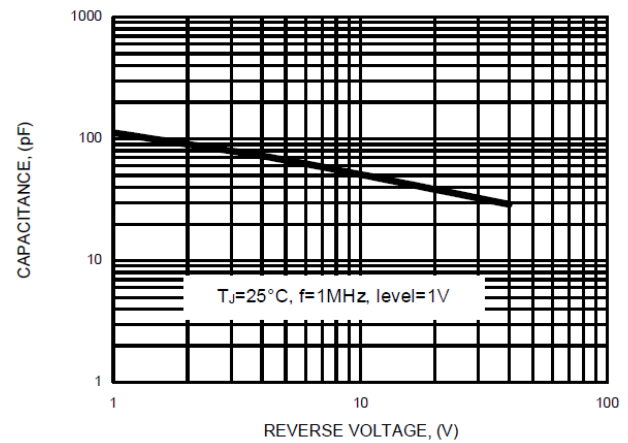


FIG.4- TYPICAL JUNCTION CAPACITANCE

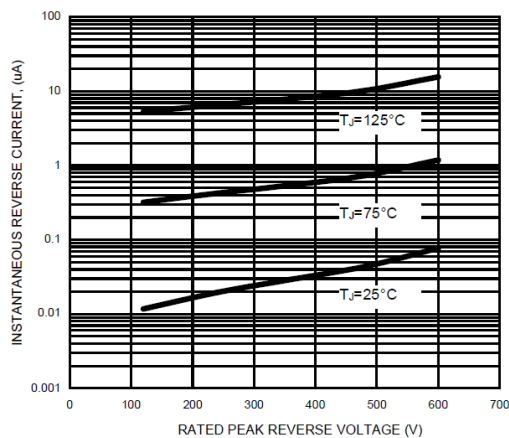
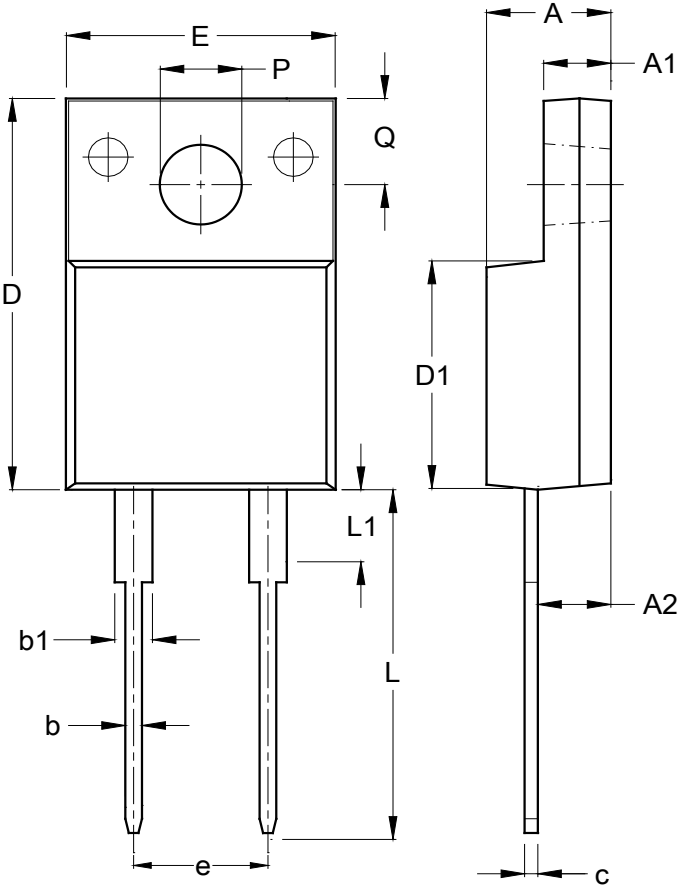


FIG.5- TYPICAL REVERSE CHARACTERISTICS

**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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