

**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	3.4	15	21

**Features and Benefits**

- Soft, Hyper-Fast Switching Capability
- Glass Passivated Die Construction
- Especially Suited for Continuous Conduction Mode Power Factor Corrections
- High-Reliability and Efficiency
- **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-Q100/101/104/200, 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**

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 Ⓢ3
- Polarity: See Diagram
- Weight: 1.522 grams (Approximate)

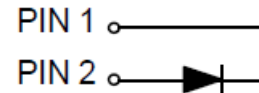
ITO220AC (Type WX-NC)



Top View



Top View Pin-Out


**Ordering Information** (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
DTH8S06FP	ITO220AC (Type WX-NC)	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-NC)



DTH8S06FP = Product Type Marking Code  
 J = Manufacturers' Code Marking  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 22 for 2022)  
 WW = Week Code (01 to 53)

## Maximum Ratings (@T<sub>A</sub> = +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	V <sub>RRM</sub>	600	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Average Rectified Output Current	I <sub>O</sub>	8	A
Reverse Recovery Time, I <sub>F</sub> = 0.5A, I <sub>RR</sub> = 0.25A, I <sub>R</sub> = 1.0A	t <sub>RR</sub>	21	ns
Non-Repetitive Peak Forward Surge Current, t <sub>p</sub> = 1ms	I <sub>FSM</sub>	150	A
Non-Repetitive Peak Forward Surge Current, t <sub>p</sub> = 10ms		70	
Maximum Mounting Torque	T <sub>or</sub>	0.5	N.m

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R <sub>θJC</sub>	2.7	°C/W
Typical Thermal Resistance Junction to Lead (Note 5)	R <sub>θJL</sub>	4.5	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +175	°C

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage (Note 7)	V <sub>F</sub>	—	—	3.4	V	I <sub>F</sub> = 8A, T <sub>J</sub> = +25°C
Reverse Leakage Current (Note 6)	I <sub>R</sub>	—	—	15 200	μA	V <sub>R</sub> = 600V, T <sub>J</sub> = +25°C V <sub>R</sub> = 600V, T <sub>J</sub> = +125°C
Reverse Recovery Time (Note 8)	t <sub>RR</sub>	—	12	18	ns	I <sub>F</sub> = 1A, dI <sub>F</sub> /dt = -200A/μs, V <sub>R</sub> = 30V
Reverse Recovery Current, @T <sub>J</sub> = +25°C (Note 8)	I <sub>RM</sub>	—	1.8	2.2	A	I <sub>F</sub> = 8A, dI <sub>F</sub> /dt = -200A/μs, V <sub>R</sub> = 200V
Reverse Recovery Current, @T <sub>J</sub> = +125°C (Note 8)			5	6.0		
Reverse Recovery Charge, @T <sub>J</sub> = +25°C (Note 8)	Q <sub>RR</sub>	—	60	—	nC	I <sub>F</sub> = 8A, dI <sub>F</sub> /dt = -200A/μs, V <sub>R</sub> = 200V
Reverse Recovery Charge, @T <sub>J</sub> = +125°C (Note 8)			220			

Notes: 5. Thermal Resistance test performed in accordance with JESD-51. R<sub>θJL</sub> is measured at the PIN 2; R<sub>θJC</sub> is measured at the top center of the body.  
 6. Short duration pulse test used to minimize self-heating effect.  
 7. 300μs pulse width, 2% duty cycle.  
 8. Guaranteed by design.

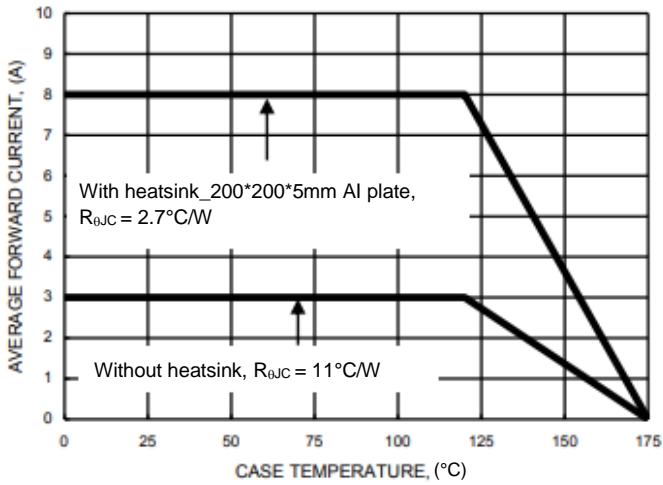


Figure 1. Forward Current Derating Curve

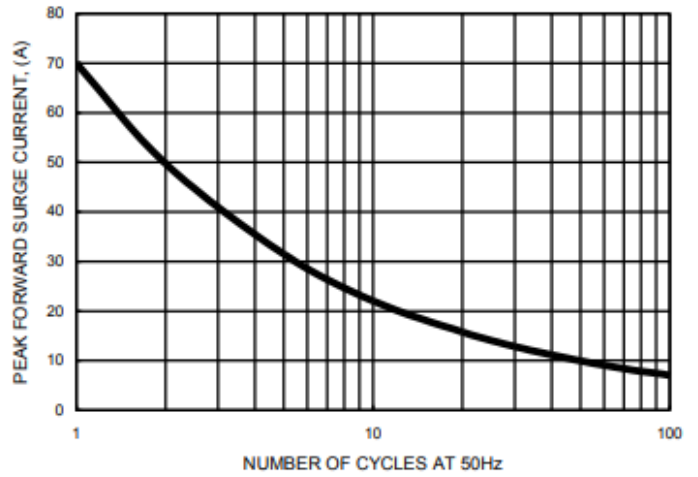


Figure 2. Maximum Non-Repetitive Surge Current

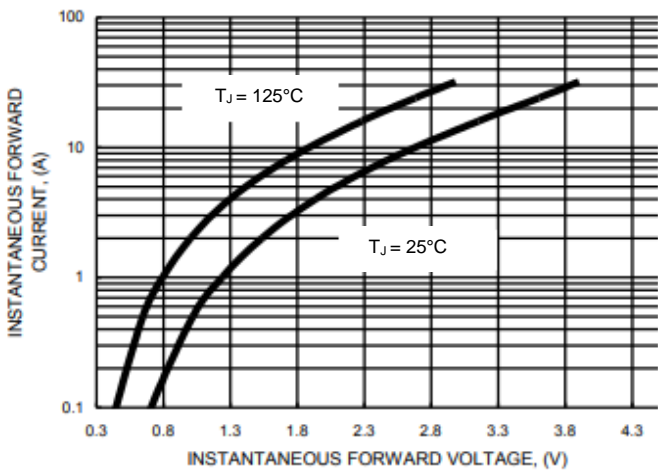


Figure 3. Typical Forward Characteristics

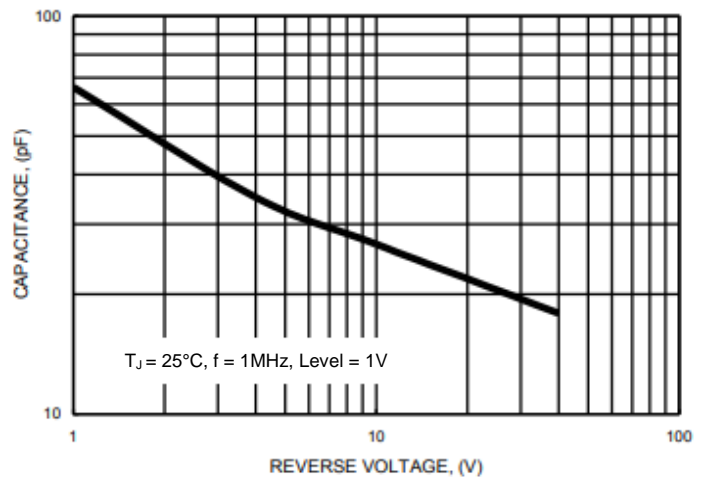


Figure 4. Typical Junction Capacitance

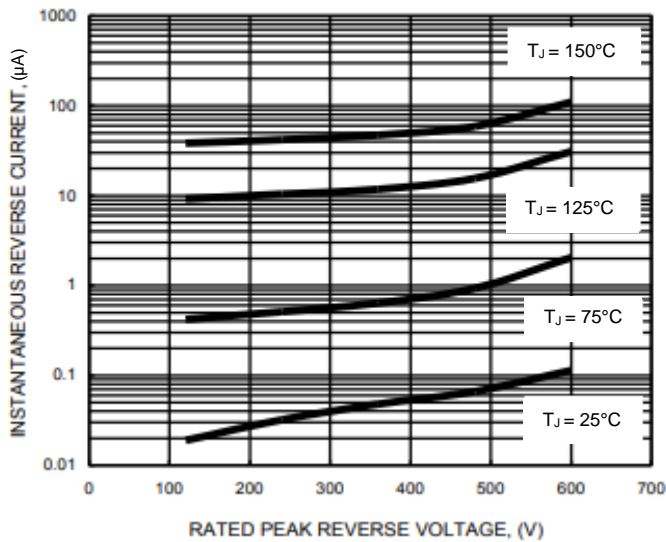
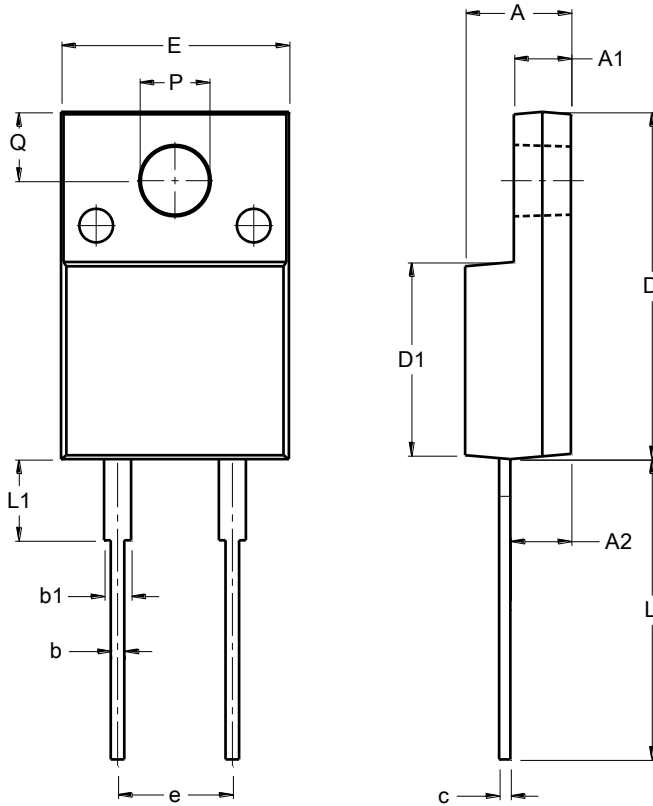


Figure 5. Typical Reverse Characteristics

**Package Outline Dimensions**

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

**ITO220AC (Type WX-NC)**



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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
P $\varnothing$	3.00	3.30
All Dimensions in mm		

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