

Product Summary (@T_A = +25°C)

V _{RRM} (V)	I _o (A)	V _F (V)	I _R (μA)	t _{RR} (ns)
600	8	2.9	30	25

Features and Benefits

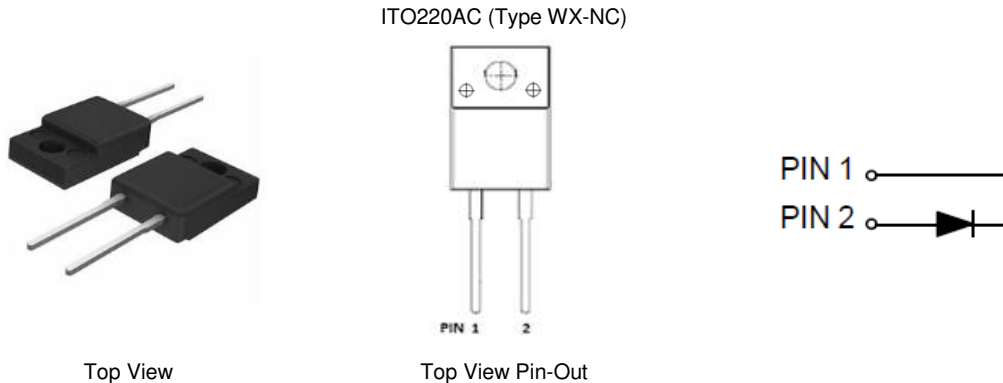
- Soft, Hyper Fast Switching Capability
- Glass Passivated Die Construction
- Especially Suited for Continuous Conduction Mode Power Factor Corrections
- High Reliability and Efficiency
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**
- **For 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 Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 1.522 grams (Approximate)



Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
DTH8E06FP	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)



DTH8E06FP = 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_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	600	V
Average Rectified Output Current	I _O	8	A
Non Repetitive Avalanche Energy, L = 15mH	E _{AS}	21.7	mJ
Peak Forward Surge Current, t _P = 1ms, Single Half Sine Wave	I _{FSM}	250	A
Peak Forward Surge Current, t _P = 10ms, Single Half Sine Wave		125	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	16	°C/W
Typical Thermal Resistance Junction to Case (Notes 5 & 6)	R _{θJC}	5	°C/W
Typical Thermal Resistance Junction to Lead (Notes 5 & 6)	R _{θJL}	7	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +175	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V _{(BR)R}	600	—	—	V	I _R = 30μA
Forward Voltage (Note 8)	V _F	—	— 1.4	2.9 1.8	V	I _F = 8A, T _J = +25°C I _F = 8A, T _J = +125°C
Reverse Leakage Current (Note 7)	I _R	— —	— 35	30 400	μA	V _R = 600V, T _J = +25°C V _R = 600V, T _J = +125°C
Reverse Recovery Time (Note 9)	t _{RR}	— —	— —	25 45	ns	I _F = 0.5A, I _{RR} = 0.25A, I _R = 1A I _F = 1A, dI _F /dt = -50A/μs, V _R = 30V
Reverse Recovery Current, @T _J = +125°C (Note 9)	I _{RM}	—	5.5	7.2	A	I _F = 8A, dI _F /dt = -200A/μs, V _R = 400V
Reverse Recovery Charge, @T _J = +125°C (Note 9)	Q _{RR}	—	150	—	nC	I _F = 8A, dI _F /dt = -200A/μs, V _R = 400V

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

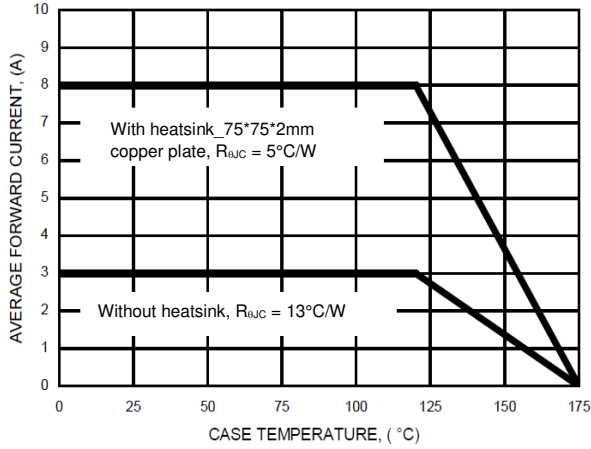


Figure 1. Forward Current Derating Curve

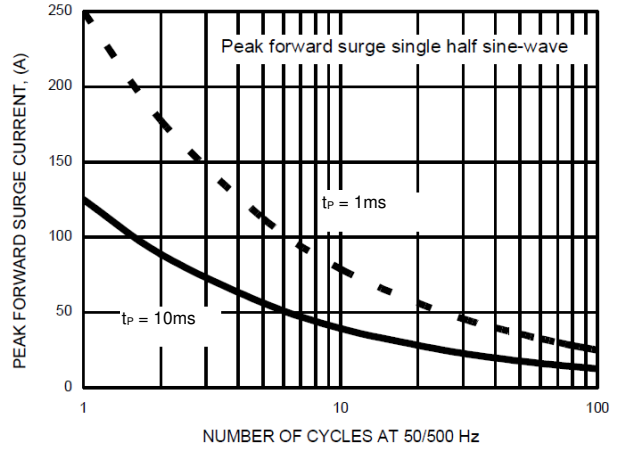


Figure 2. Maximum Non-Repetitive Surge Current

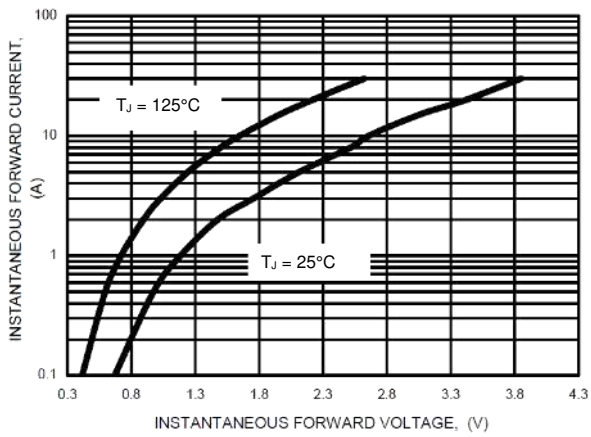


Figure 3. Typical Forward Characteristics

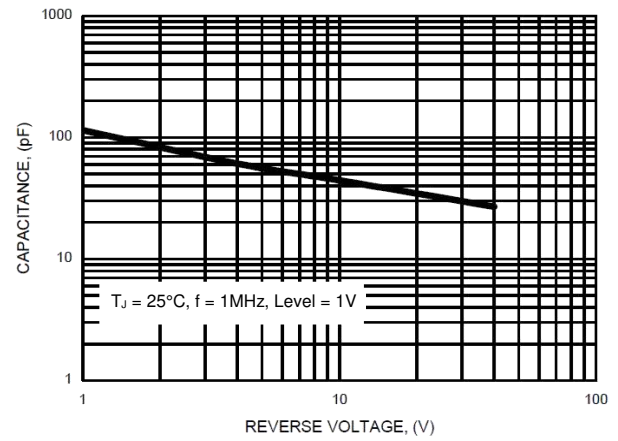


Figure 4. Typical Total Capacitance

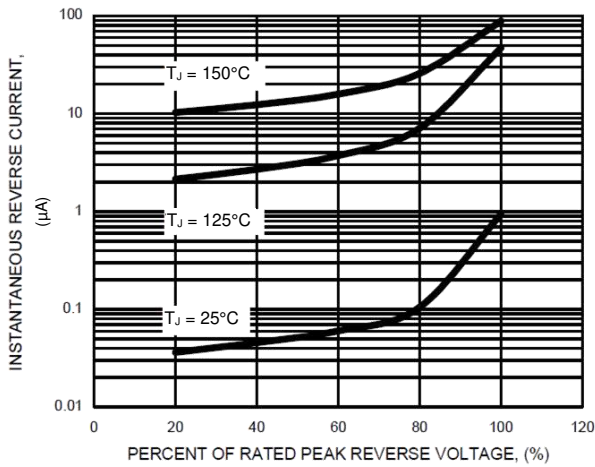
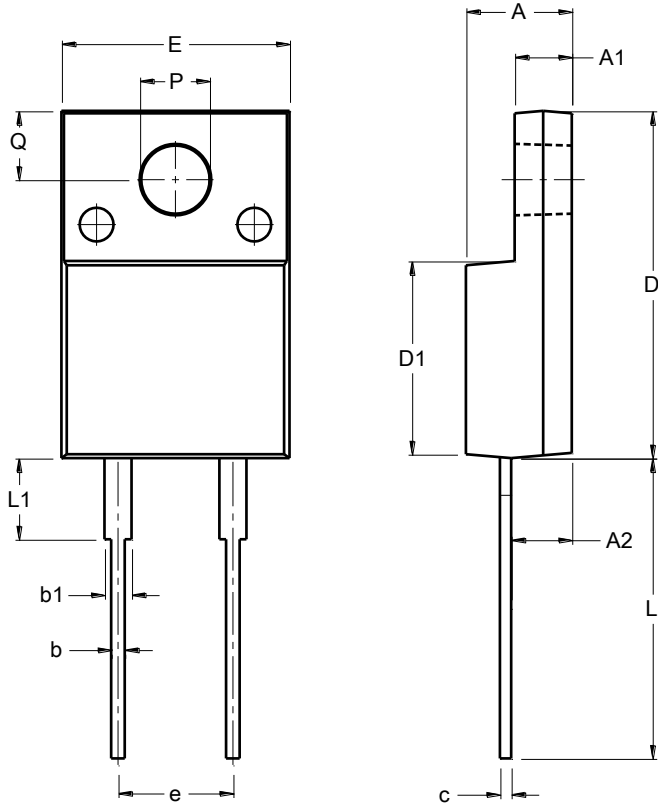


Figure 5. Typical Reverse Characteristics

Package Outline Dimensions

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

ITO220AC (Type WX-NC)



ITO220AC (Type WX-NC)		
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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