

Product Summary (Per Leg, @ $T_A = +25^\circ\text{C}$)

V_{RRM} (V)	I_o (A)	V_F (V)	I_R (μA)
400	5	1.3	10

Features and Benefits

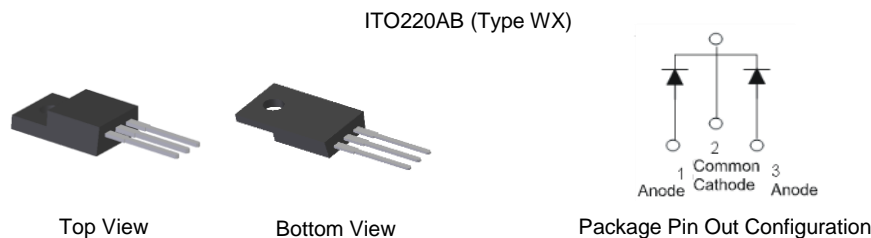
- Super-Fast Switching Capability
- Glass Passivated Die Construction
- Rating to 400V Peak Reverse Voltage
- High Current Capability
- Low-Forward Voltage Drop
- Low-Reverse Leakage Current
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Applications

- Switched mode power supplies
- High-frequency DC to DC converters

Mechanical Data

- Package: ITO220AB
- 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 $\text{\textcircled{3}}$
- Polarity: See Diagram
- Weight: 1.558 grams (Approximate)

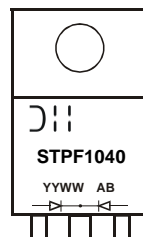

Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
STPF1040	ITO220AB (Type WX)	50 pcs	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

ITO220AB (Type WX)



STPF1040 = Product Type Marking Code
 $\text{D}|||$ = Manufacturer's Marking
 YYWW = Date Code Marking
 YY = Last Two Digits of Year (ex: 23 for 2023)
 WW = Week Code (01 to 53)
 AB = Foundry and Assembly Code

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RRM} V_R	400	V
Average Rectified Output Current, @ $T_C = +90^\circ\text{C}$	(Per Leg) I_O (Total)	5 10	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	80	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Notes 5 & 6)	$R_{\theta JC}$	5	$^\circ\text{C/W}$
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 7)	$V_{(BR)R}$	400	—	—	V	$I_R = 10\mu\text{A}$
Forward Voltage (Note 8)	V_F	—	—	1.30	V	$I_F = 5\text{A}, T_J = +25^\circ\text{C}$
		—	—	1.20	V	$I_F = 5\text{A}, T_J = +125^\circ\text{C}$
		—	—	1.50	V	$I_F = 10\text{A}, T_J = +25^\circ\text{C}$
		—	—	1.40	V	$I_F = 10\text{A}, T_J = +125^\circ\text{C}$
Reverse Leakage Current (Note 7)	I_R	—	—	10 250	μA	$V_R = 400\text{V}, T_J = +25^\circ\text{C}$ $V_R = 400\text{V}, T_J = +100^\circ\text{C}$
Typical Total Capacitance	C_T	—	30	50	pF	$V_R = 4\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{RR}	—	—	35	ns	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{RR} = 0.25\text{A}$

- Notes:
5. Thermal resistance test performed in accordance with JESD-51.
 6. The unit mounted on 100.64mm x 75.2mm x 26.83 mm aluminum plate heatsink.
 7. Short duration pulse test used to minimize self-heating effect.
 8. 300 μs pulse width, 2% duty cycle.

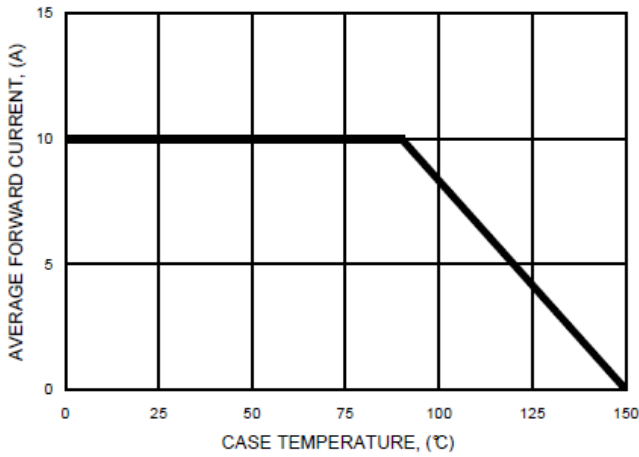


Figure 1. Forward Current Derating Curve

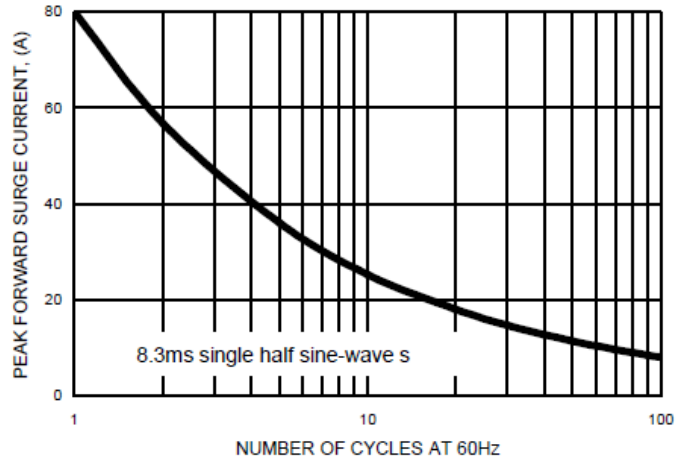


Figure 2. Maximum Non-Repetitive Surge Current

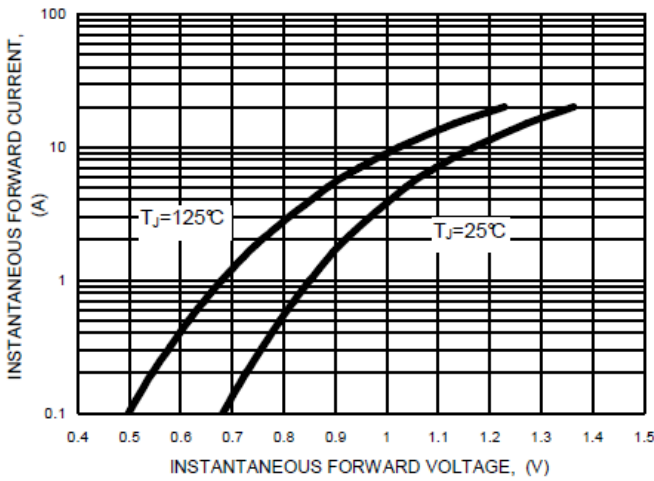


Figure 3. Typical Forward Characteristics

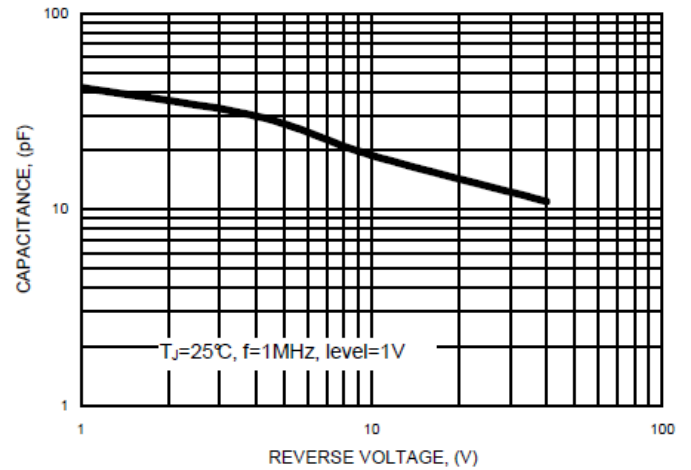


Figure 4. Typical Total Capacitance

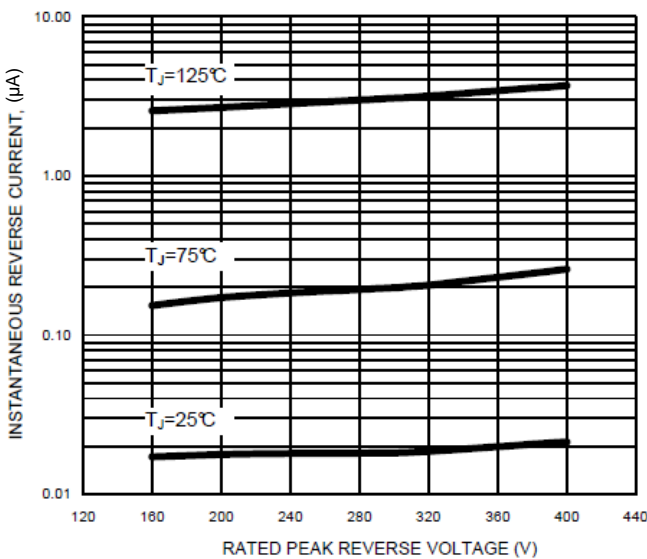
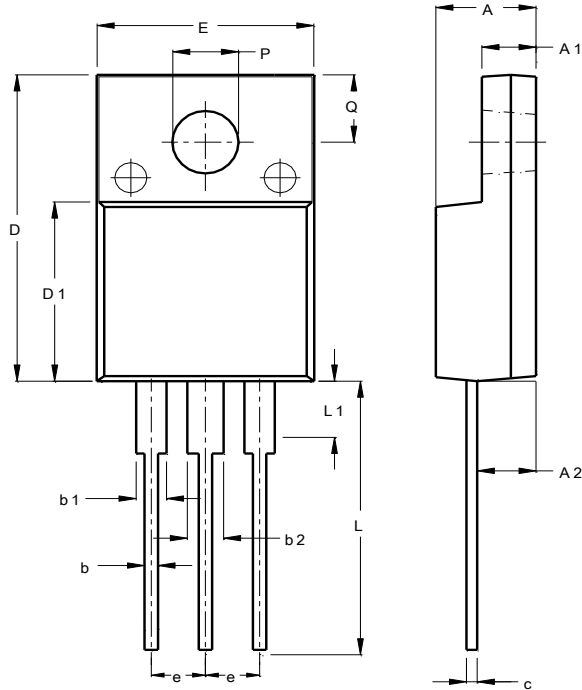


Figure 5. Typical Reverse Characteristics

Package Outline Dimensions

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

ITO220AB (Type WX)



ITO220AB (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
b2	1.50	1.90
c	0.45	0.70
D	14.95	15.95
D1	8.50	8.80
E	10.00	10.40
e	2.40	2.70
L	13.00	13.70
L1	3.30	3.90
Q	2.76	3.36
P	3.00	3.30
All Dimensions in mm		

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