

## SUPER FAST GLASS PASSIVATED RECTIFIERS

**REVERSE VOLTAGE – 400 Volts**  
**FORWARD CURRENT – 10 Amperes**

**FEATURES**

- Glass passivated chip
- Super fast switching time for high efficiency
- Low forward drop voltage and high current capability
- Low reverse leakage current
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

**MECHANICAL DATA**

- Package: ITO-220AB molded plastic
- Package Material: "Green" Molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.) "Halogen-free".
- Maximum mounting torque = 0.5 N.m(5.1 Kgf.cm)
- Lead free finish, RoHS compliant
- Polarity : As marked on body
- Marking position: Any
- Weight: 0.05ounces, 1.558 grams (Approximate)
- Marking code:STPF1040CTW

**ITO-220AB(W/B)**

ITO-220AB(W/B)		
DIM	MIN	MAX
A	14.95	15.95
B	10.00	10.40
C	2.76	3.36
D	8.50	8.80
E	3.30	3.90
F	13.0	13.70
G	1.15	1.70
H	2.40	2.70
I	0.50	0.80
J	0.45	0.70
K	3.00	3.30
L	4.46	4.87
M	2.48	2.80
N	2.50	2.80
P	1.50	1.90

All dimension in millimeter

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	V
Maximum DC blocking voltage	$V_{DC}$	400	V
Maximum Average rectified forward current	$I_{AV}$	10	A
Peak forward surge 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	80	A
Operating and Storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

### STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F = 5A$	$V_F$	$T_J = 25^\circ C$	1.30	V
			$T_J = 125^\circ C$	1.20	
	$I_F = 10A$		$T_J = 25^\circ C$	1.50	
			$T_J = 125^\circ C$	1.40	
Reverse leakage current	$V_R = 400V$	$I_R$	--	10 250	uA
Typical junction capacitance (Note 5)		$C_J$	30	50	pF

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	$R_{thJC}$	5	°C/W

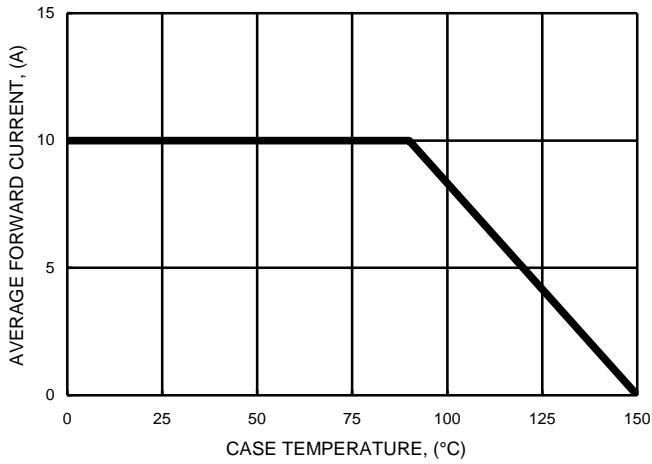
### DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Reverse recovery time	$I_F=0.5A, I_{rr}=0.25A, I_R=0.1A$	$T_{RR}$	35	nS

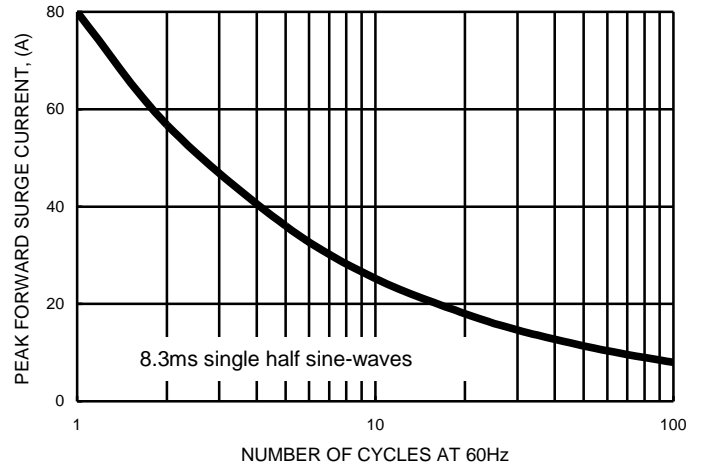
- Notes:**
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  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. 300us pulse width, 2% duty cycle.
  5. Measured at 1.0MHz and applied reverse voltage of 4.0 VDC.
  6. Thermal Resistance test performed in accordance with JESD-51.
  7. The unit mounted on 100.64mm x 75.2mm x 26.83 mm Aluminum Plate Heatsink.

**RATING AND CHARACTERISTIC CURVES**  
**STPF1040CTW**

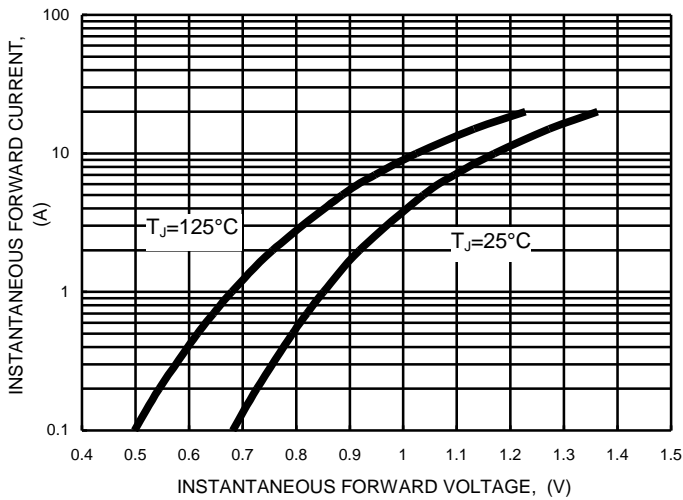
**FIG.1- FORWARD CURRENT DERATING CURVE**



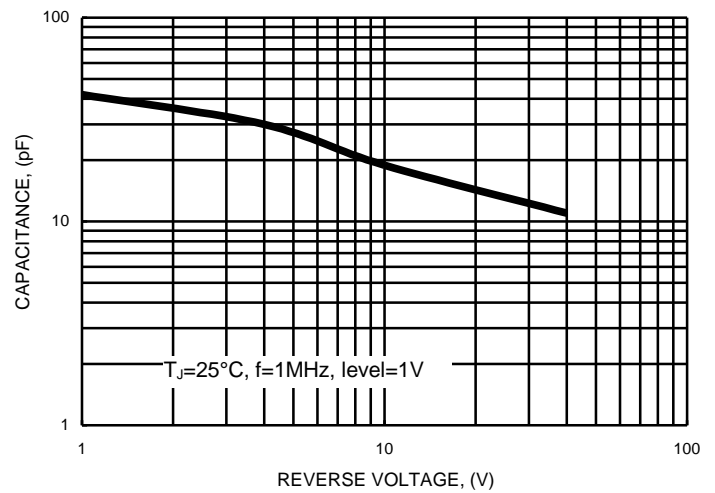
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



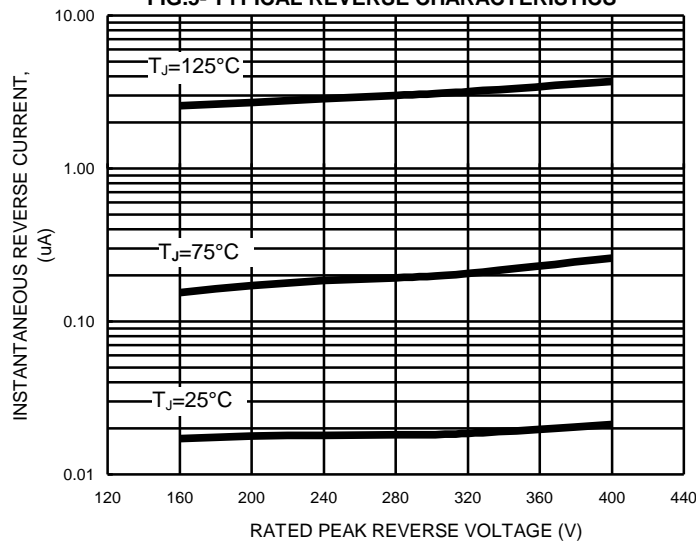
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



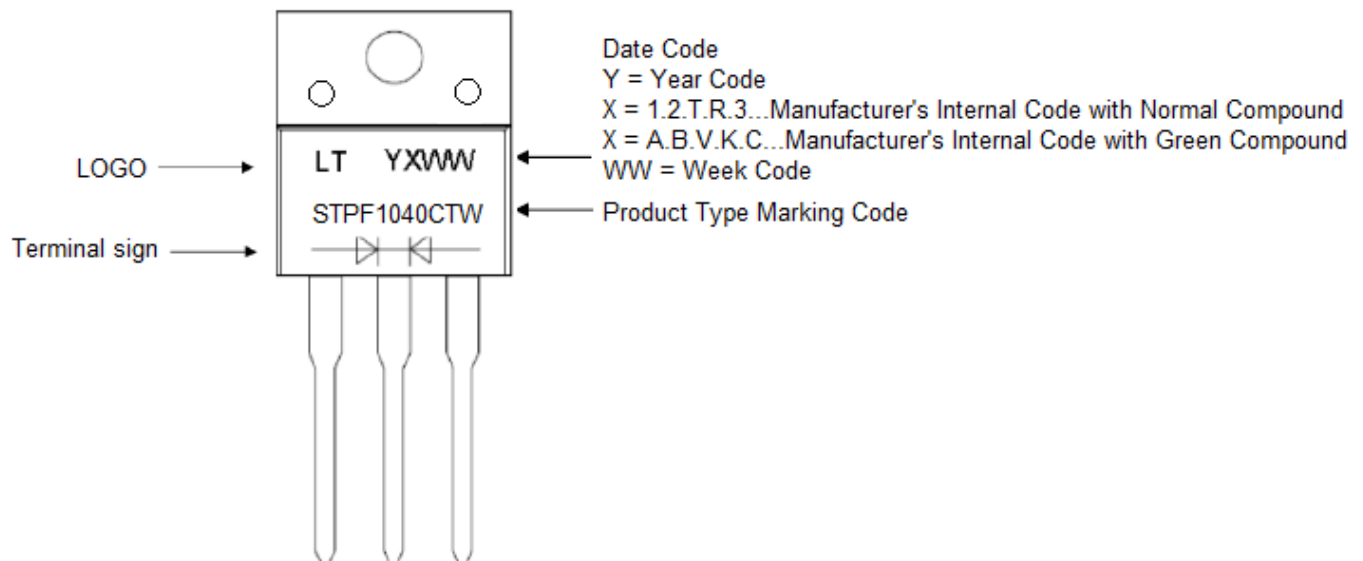
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



## Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
STPF1040CTW	ITO-220AB(W/B)	50 pcs	Tube

## Marking Information:



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