

SUPER FAST GLASS PASSIVATED RECTIFIERS

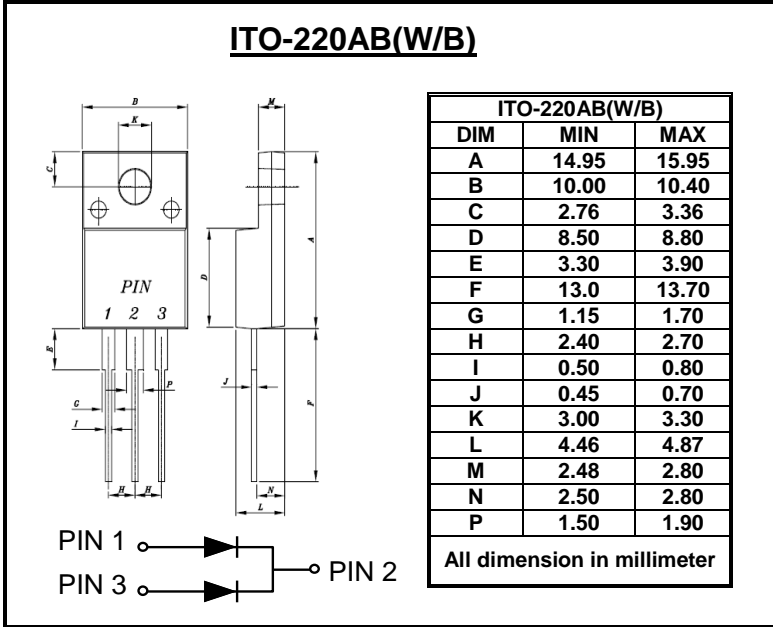
REVERSE VOLTAGE – 400 Volts
FORWARD CURRENT – 10 Amperes

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



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	μA
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

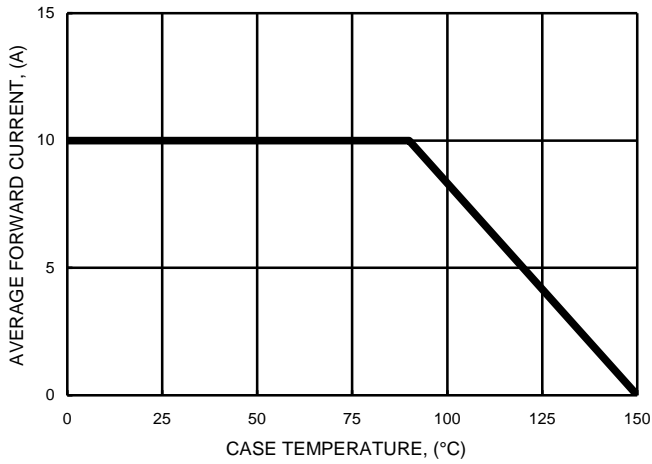


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

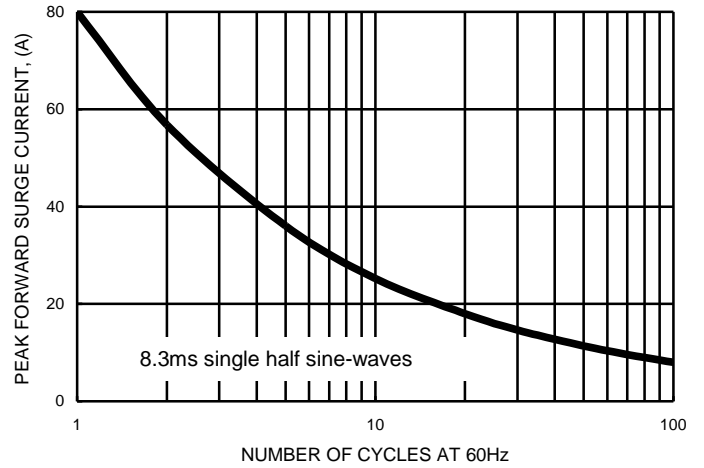


FIG.3- TYPICAL FORWARD CHARACTERISTICS

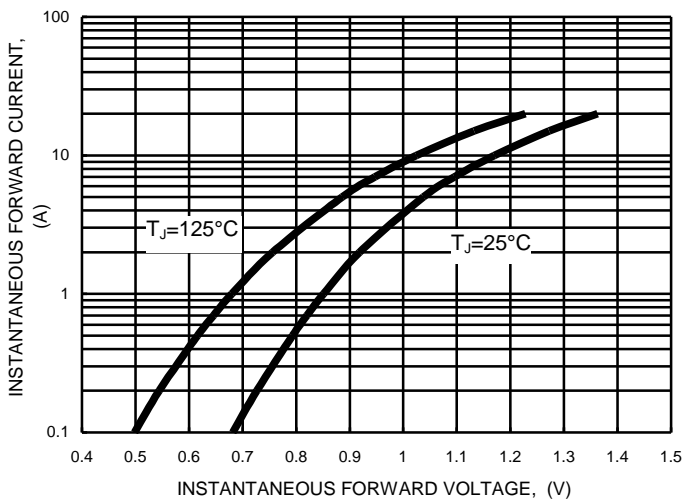


FIG.4- TYPICAL JUNCTION CAPACITANCE

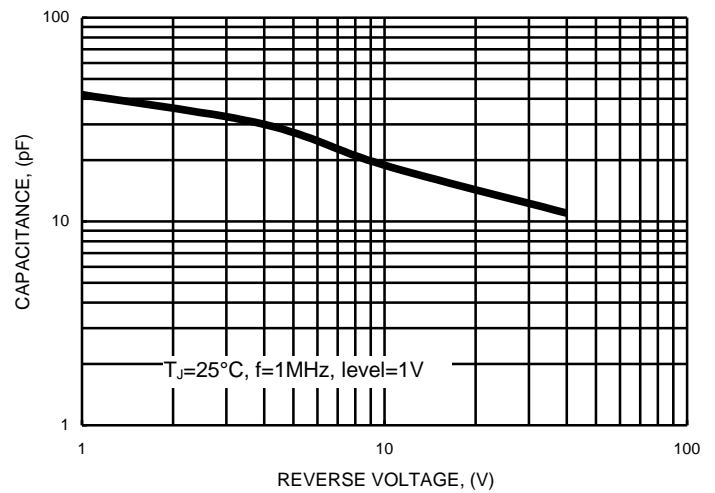
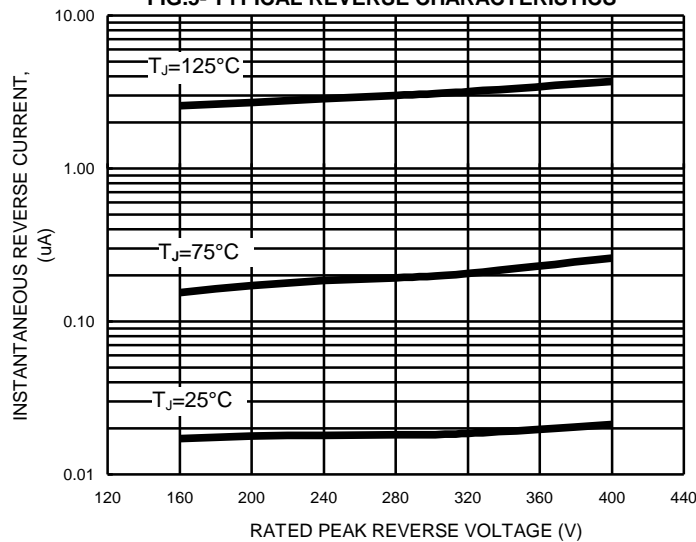


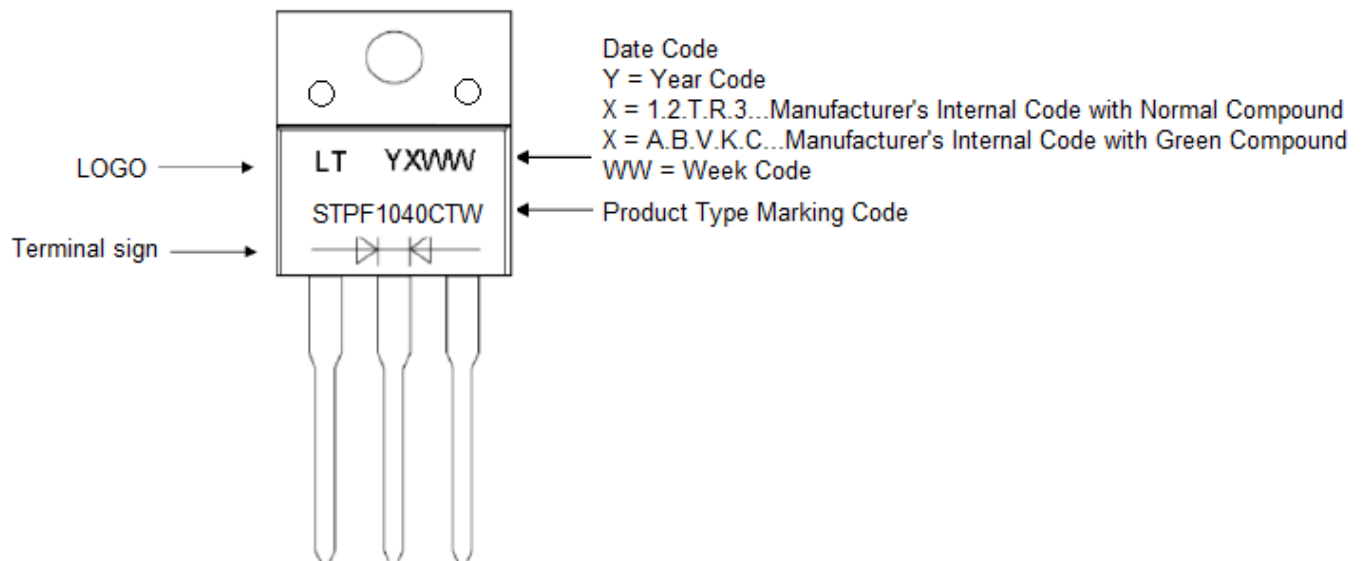
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

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

Marking Information:



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