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A Product Line of Diodes Incorporated | LITE-ON SEMICONDUCTOR

STPF1020CTSW

SUPER FAST GLASS PASSIVATED RECTIFIERS

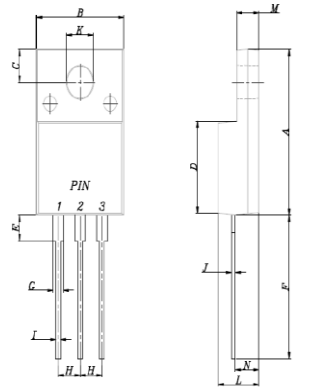
REVERSE VOLTAGE – 200 Volts
FORWARD CURRENT – 10 Amperes

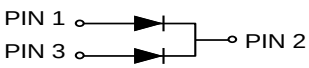
FEATURES
- Glass passivated chip
- Superfast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- High surge capacity
- Qualification is according to AEC-Q101 Rev_D
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

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

MECHANICAL DATA
- Package: JEDEC TO-220ABFP
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.558 grams (Approximate)
- Marking code: STPF1020CTSW

ITO-220(S)AB





ITO-220(S)AB		
DIM	MIN	MAX
A	14.95	15.95
B	10.00	10.40
C	2.76	3.36
D	8.50	8.80
E	2.10	2.50
F	13.00	13.70
G	1.15	1.37
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
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}	200	V
Maximum DC blocking voltage		V_{DC}	200	V
Maximum Average rectified output current	@T_C=110°C	$I_{(AV)}$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.		I_{FSM}	80	A
Operating junction and Storage Temperature range		T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	I_F=5A	T_J=25°C	V_F	--	1.10	V
		T_J=125°C		0.83	--	
	I_F=10A	T_J=25°C		--	1.25	
		T_J=125°C		0.76	--	
Leakage current	V_R=200V	T_J=25°C	I_R	--	10	uA
		T_J=100°C		0.47	250	
Typical junction capacitance (Note 5)			C_J	45		pF

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	MAX	UNIT
Reverse recovery time	I_F=0.5A, I_R=1.0A, I_{RR}=0.25A	T_{rr}	30	nS

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	$RthJ_C$	5	°C/W
	$RthJ_L$	4	

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 voltage of 4.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on 100mm x 100mm x 1.9mm copper heatsink.

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RATING AND CHARACTERISTIC CURVES
STPF1020CTSW

FIG.1 FORWARD CURRENT DERATING CURVE

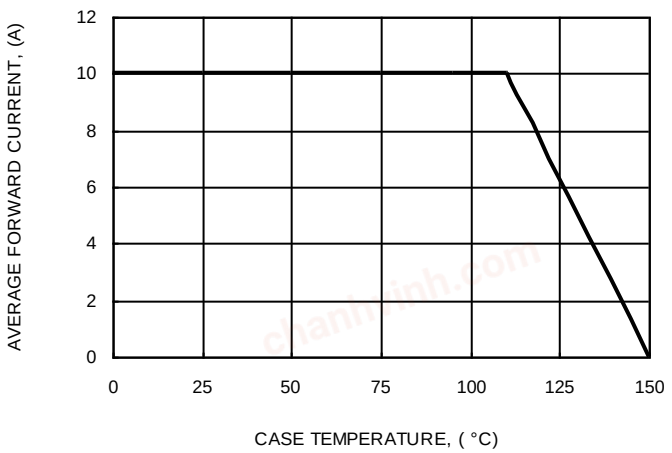


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

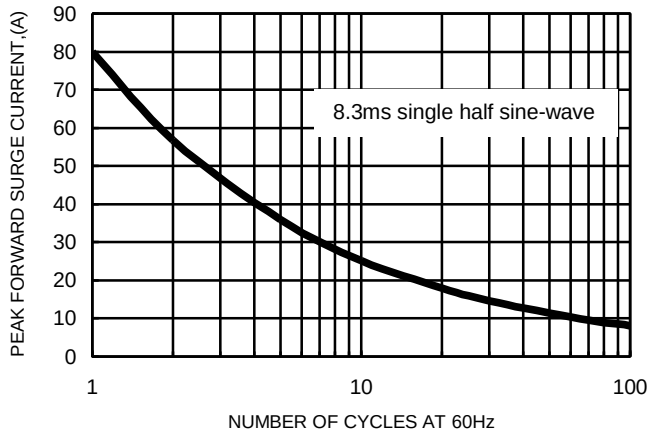


FIG.3 TYPICAL FORWARD CHARACTERISTICS

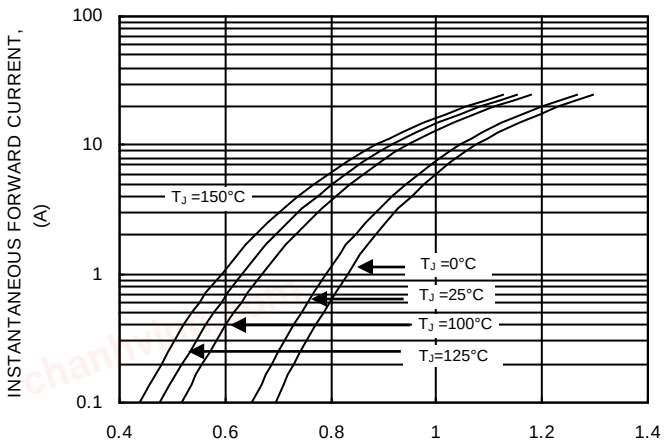


FIG.4 TYPICAL JUNCTION CAPACITANCE

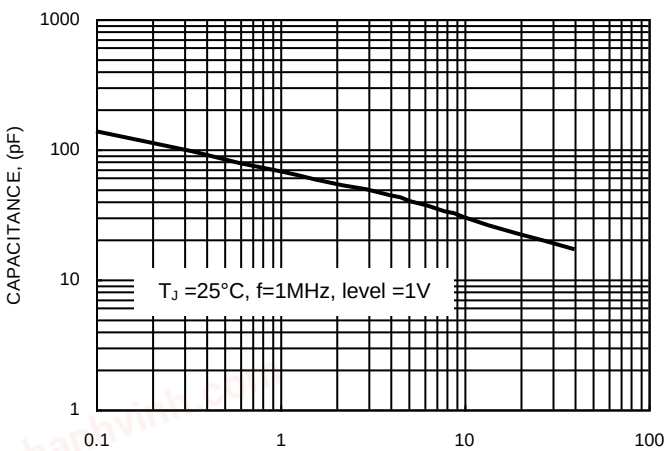
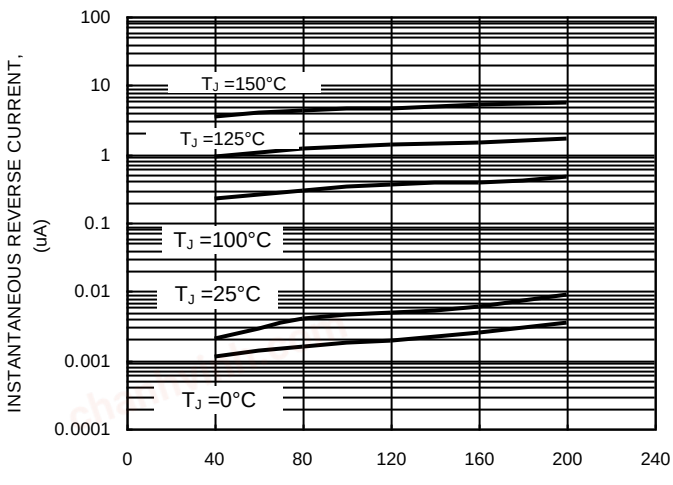


FIG.5 TYPICAL REVERSE CHARACTERISTICS



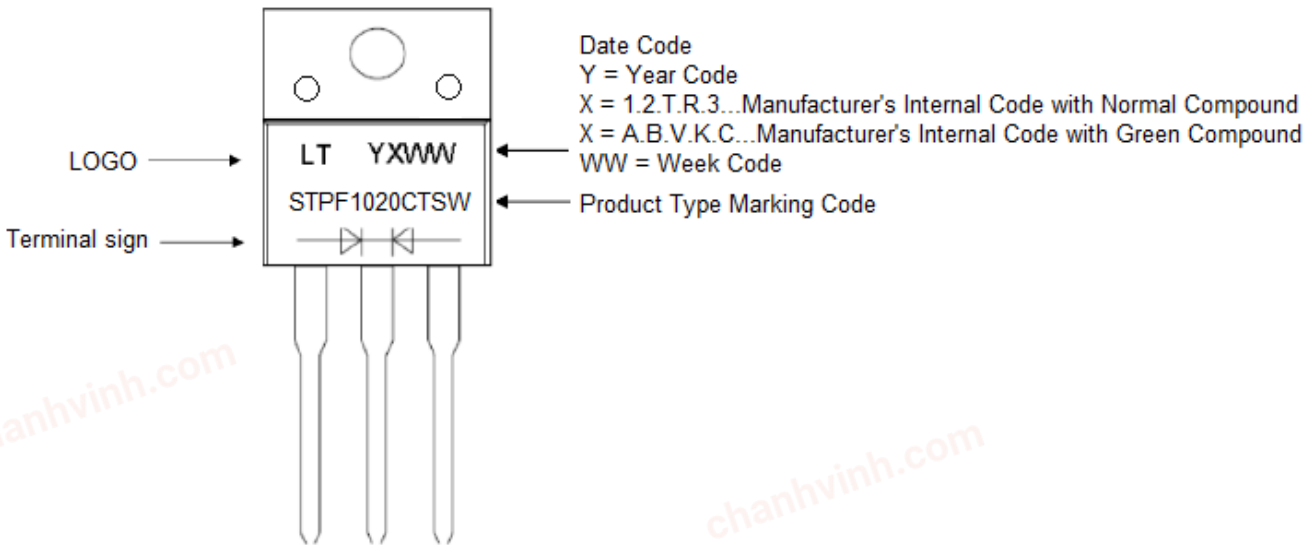
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Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
STPF1020CTSW	ITO-220(S)AB	50 pcs	Tube

Marking Information:



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