

**SUPER FAST  
GLASS PASSIVATED RECTIFIERS**

**REVERSE VOLTAGE – 600 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

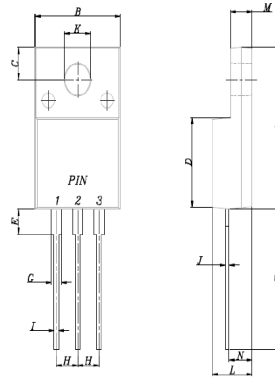
**APPLICATION**

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

**MECHANICAL DATA**

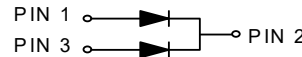
- Case: JEDEC TO-220ABFP
- Case Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Lead free finish, RoHS compliant
- Weight: 1.558 grams (Approximate)
- Marking code: STPF1060CTSW

**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  | $V_{RRM}$      | 600        | V    |
| Maximum DC blocking voltage  | $V_{DC}$       | 600        | V    |
| Maximum Average rectified output current   | $I_{(AV)}$     | 10         | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load. | $I_{FSM}$      | 55         | A    |
| Operating junction and Storage Temperature range                                   | $T_J, T_{STG}$ | -55 ~ +150 | °C   |

**STATIC ELECTRICAL CHARACTERISTICS**

| PARAMETER                             | TEST CONDITIONS | SYMBOL            | TYP               | MAX  | UNIT |
|---------------------------------------|-----------------|-------------------|-------------------|------|------|
| Forward voltage (Note1)               | $I_F=5A$        | $V_F$             | $T_J=25^\circ C$  | 1.50 | V    |
|                                       |                 |                   | $T_J=125^\circ C$ | 1.40 |      |
|                                       | $I_F=10A$       | $T_J=25^\circ C$  | 1.70              |      |      |
|                                       |                 | $T_J=125^\circ C$ | 1.60              |      |      |
| Leakage current                       | $V_R=600V$      | $I_R$             | 2.79              | 10   | uA   |
| Typical junction capacitance (Note 2) |                 | $C_J$             |                   | 35   | pF   |

**DYNAMIC ELECTRICAL CHARACTERISTICS**

| PARAMETER             | TEST CONDITIONS                    | SYMBOL   | MAX | UNIT |
|-----------------------|------------------------------------|----------|-----|------|
| Reverse recovery time | $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$ | $T_{rr}$ | 50  | nS   |

**THERMAL CHARACTERISTICS**

| PARAMETER                             | SYMBOL     | TYP | UNIT |
|---------------------------------------|------------|-----|------|
| Typical thermal resistance (Note 3,4) | $R_{thJC}$ | 4   | °C/W |
|                                       | $R_{thJL}$ | 4   |      |

**Note :**

- (1) 300us pulse width, 2% duty cycle.
- (2) Measured at 1.0MHz and applied voltage of 4.0V DC.
- (3) Thermal resistance test performed in accordance with JESD-51.
- (4) The unit mounted on Aluminum plate 29.6mm x 23.9mm x 1.87mm with Aluminum plate 100mm x 100mm x 1.9mm

REV.-1, Sep-2019, KTGC93

Please be aware that an **Important Notice and Disclaimer** concerning availability, disclaimers, and use in critical applications of LSC products thereto appears at the end of this Data Sheet.

# RATING AND CHARACTERISTIC CURVES STPF1060CTSW



FIG.1 FORWARD CURRENT DERATING CURVE

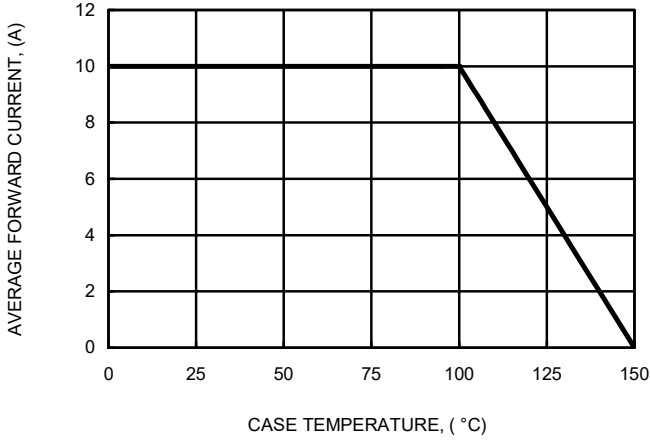


FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

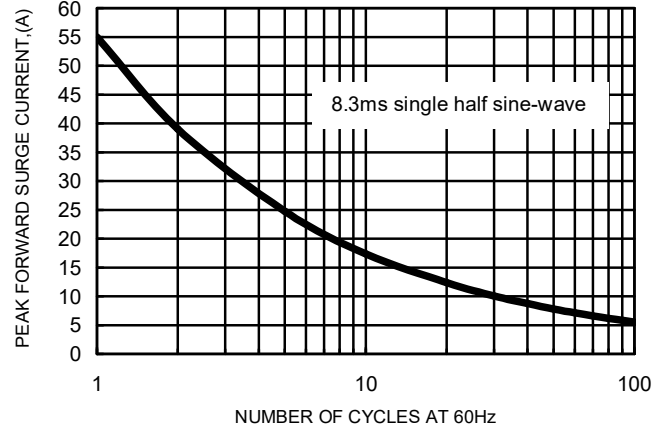


FIG.3 TYPICAL FORWARD CHARACTERISTICS

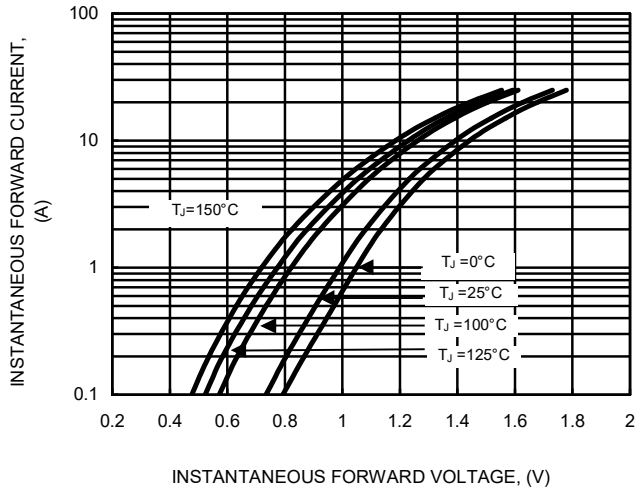


FIG.4 TYPICAL JUNCTION CAPACITANCE

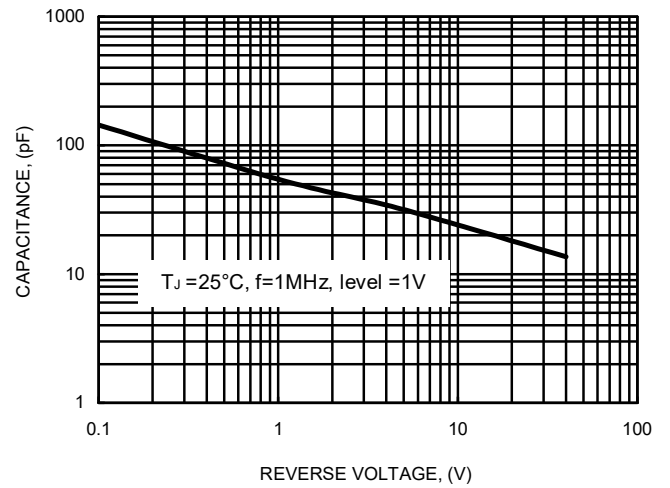
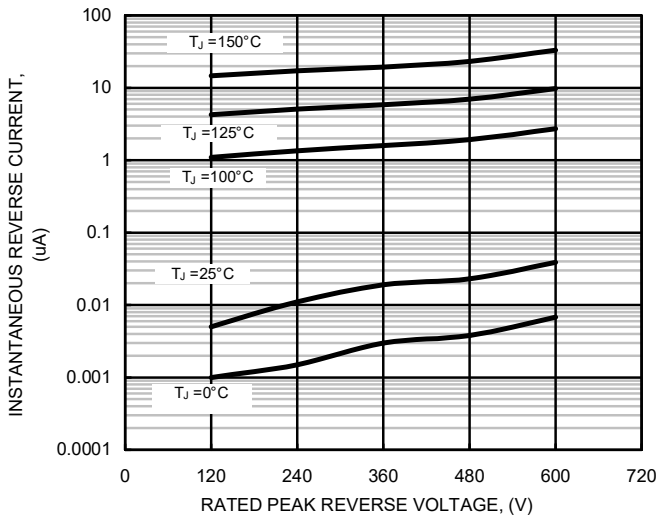


FIG.5 TYPICAL REVERSE CHARACTERISTICS



**IMPORTANT NOTICE AND DISCLAIMER**

**LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design purchase or use.**

**ALL INFORMATION ARE PROVIDED AS-IS, EVEN IT HAS QUALIFIED BY THE AEC-Q101 WHICH SATISFY INDUSTRIAL APPLICATION REQUIREMENT, EXCEPT AS EXPRESSLY STATED IN THIS DATA SHEET IS APPLIED FOR AUTOMOTIVE GRADE, LSC MAKE NO WARRANTIES, REPRESENTATION OR GUARANTEE, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, REGARDING ANY MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE LSC TECHNOLOGY.**

**LSC DOES NOT ASSUME ANY LIABILITY OR COMPENSATION FOR ANY APPLICATION ASSISTANCE OR CUSTOMER PRODUCT DESIGN, AND MAKE NO WARRANTY OR ACCEPT ANY LIABILITY WITH PRODUCTS, WHICH ARE PURCHASED OR USED FOR ANY UNINTENDED OR UNAUTHORIZED APPLICATION.**

**No license is granted by implication or otherwise under any intellectual property rights of LSC.**

**LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.**