

**Ultra fast Rectifier**

**STTA512F**

**FEATURES**

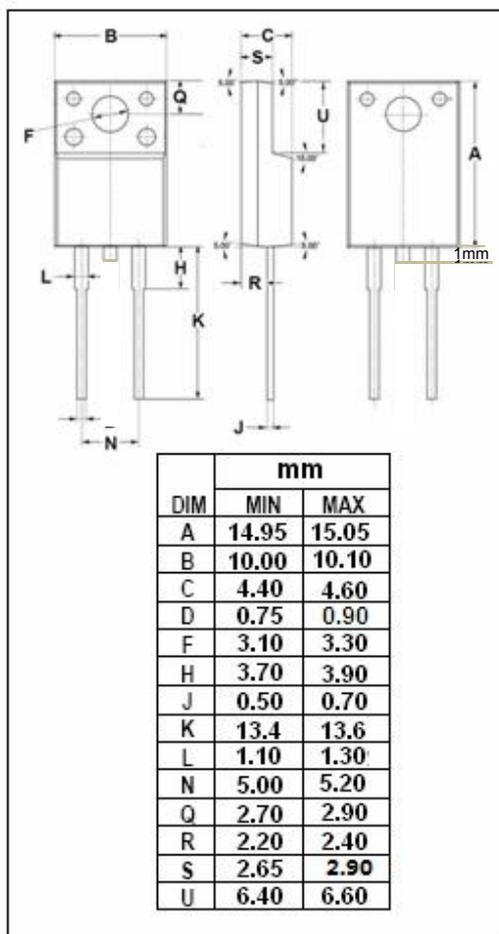
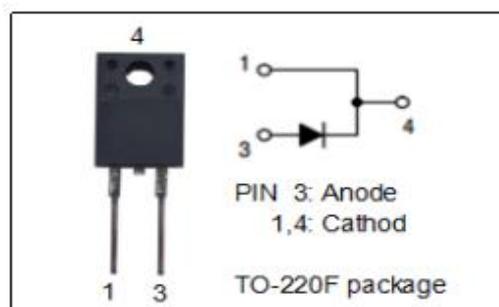
- High reverse voltage capability
- Low switching loss
- High surge current capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Switching power supply
- Power switching circuits
- General rectification

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

| SYMBOL             | PARAMETER                         | VALUE   | UNIT |
|--------------------|-----------------------------------|---------|------|
| V <sub>RRM</sub>   | Peak Repetitive Reverse Voltage   | 1200    | V    |
| I <sub>F(AV)</sub> | Average Rectified Forward Current | 5       | A    |
| I <sub>FSM</sub>   | Nonrepetitive Peak Surge Current  | 45      | A    |
| T <sub>J</sub>     | Junction Temperature              | -65~150 | °C   |
| T <sub>stg</sub>   | Storage Temperature Range         | -65~150 | °C   |



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**THERMAL CHARACTERISTICS**

| SYMBOL              | PARAMETER                            | MAX | UNIT |
|---------------------|--------------------------------------|-----|------|
| R <sub>th j-c</sub> | Thermal Resistance, Junction to Case | 4.6 | °C/W |

**ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C) (Pulse Test: Pulse Width=300 μs, Duty Cycle≤2%)**

| SYMBOL          | PARAMETER                             | CONDITIONS  | MAX      | UNIT     |
|-----------------|---------------------------------------|---|----------|----------|
| V <sub>F</sub>  | Maximum Instantaneous Forward Voltage | I <sub>F</sub> =5A; T <sub>j</sub> =25°C<br>I <sub>F</sub> =5A; T <sub>j</sub> =125°C                                 | 2.2<br>2 | V        |
| I <sub>R</sub>  | Maximum Instantaneous Reverse Current | V <sub>R</sub> = V <sub>RWM</sub> ; T <sub>j</sub> =25°C<br>V <sub>R</sub> = V <sub>RWM</sub> ; T <sub>j</sub> =125°C | 100<br>2 | μA<br>mA |
| t <sub>rr</sub> | Maximum Reverse Recovery Time         | I <sub>F</sub> =1A; di/dt=-50A/μs; V <sub>R</sub> =30V  | 95       | ns       |

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