

**Ultrafast Rectifier**
**STTH16R04CT**
**FEATURES**

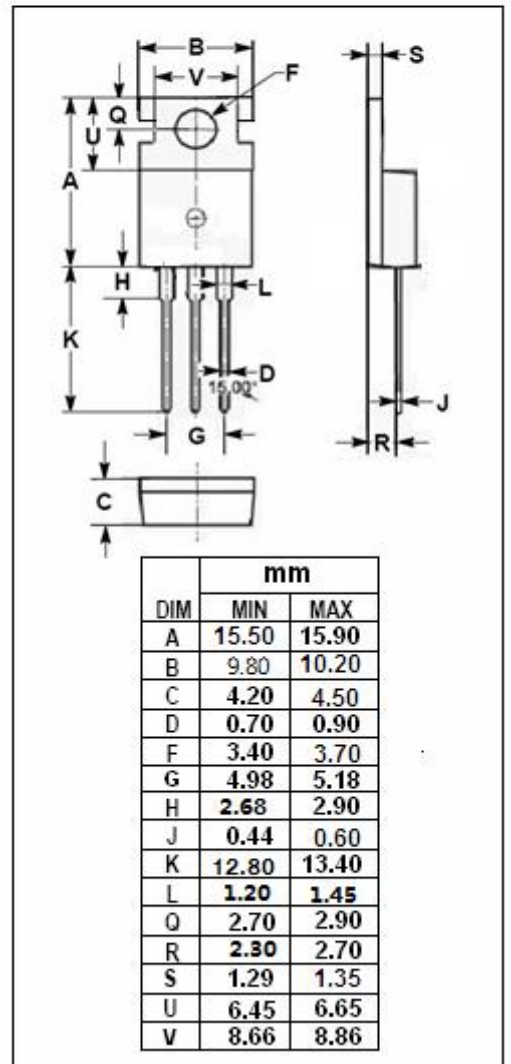
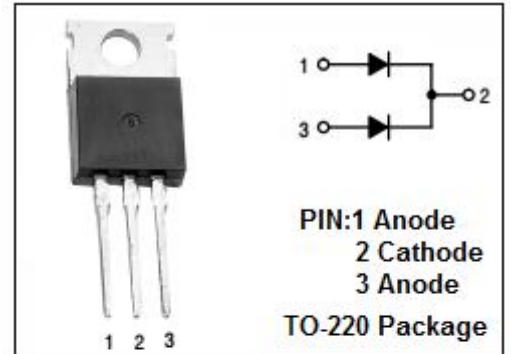
- Ultrafast with soft recovery
- 175°C Operating temperature
- Popular TO-220 package
- Avalanche energy rated
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Switching power supply
- Power switching circuits
- General purpose

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

| SYMBOL   | PARAMETER  | VALUE   | UNIT |
|--|--|---------|------|
| V <sub>R</sub> RM<br>V <sub>R</sub> WM<br>V <sub>R</sub> | Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                     | 400     | V    |
| I <sub>F</sub> (AV)                                      | Average Rectified Forward Current Per Leg<br>Total device  | 8<br>16 | A    |
| I <sub>FSM</sub>   | Nonrepetitive Peak Surge Current<br>(Surge applied at rated load conditions half-wave, single phase, 60Hz) | 120     | A    |
| P <sub>D</sub>   | Maximum power dissipation  | 75      | W    |
| T <sub>J</sub>   | Junction Temperature   | -65~175 | °C   |
| T <sub>stg</sub>   | Storage Temperature Range  | -65~175 | °C   |



**Fast Recovery Rectifier**
**STTH16R04CT**
**THERMAL CHARACTERISTICS**

| SYMBOL      | PARAMETER                            | MAX | UNIT                        |
|-------------|--------------------------------------|-----|-----------------------------|
| $R_{thj-c}$ | Thermal Resistance, Junction to Case | 2.0 | $^{\circ}\text{C}/\text{W}$ |

**ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ ) (Pulse Test: Pulse Width=300  $\mu\text{s}$ , Duty Cycle  $\leq 2\%$ )**

| SYMBOL   | PARAMETER                             | CONDITIONS   | MAX                        | UNIT          |
|----------|---------------------------------------|--|----------------------------|---------------|
| $V_F^*$  | Maximum Instantaneous Forward Voltage | $I_F=8\text{A}; T_j=25^{\circ}\text{C}$<br>$I_F=8\text{A}; T_j=150^{\circ}\text{C}$<br>$I_F=16\text{A}; T_j=25^{\circ}\text{C}$<br>$I_F=16\text{A}; T_j=150^{\circ}\text{C}$ | 1.5<br>1.1<br>1.75<br>1.37 | V             |
| $I_R^*$  | Maximum Instantaneous Reverse Current | $V_R=V_{RWM}; T_j=150^{\circ}\text{C}$<br>$V_R=V_{RWM}$  | 100<br>10                  | $\mu\text{A}$ |
| $t_{rr}$ | Maximum Reverse Recovery Time         | $I_F=1\text{A}; di/dt=50\text{A}/\mu\text{s}$  | 50                         | ns            |

\*: Pulse test, Pulse width=300us, duty cycle  $\leq 2\%$

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