

Ultrafast Rectifier

STTH3002G

FEATURES

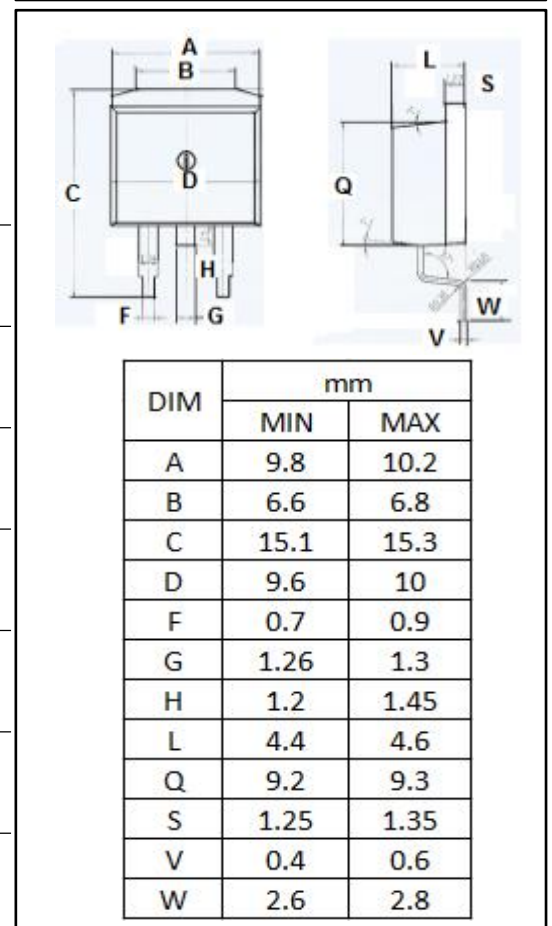
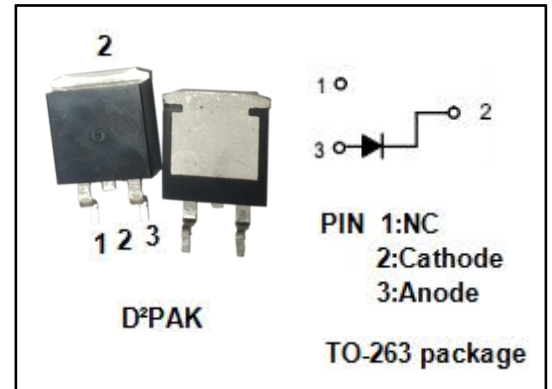
- Guarding for over voltage protection
- Dual rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- Rectifier in switch mode supplies

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------------------------|---|---------|--------------------|
| V_{RRM} V_{RWM} V_R | Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | 200 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | 30 | A |
| I_{FSM} | Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase, 60Hz) | 300 | A |
| P_D | Maximum power dissipation | 100 | W |
| T_J | Junction Temperature | -65~175 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~175 | $^{\circ}\text{C}$ |



Fast Recovery Rectifier

STTH3002G

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.2 | °C/W |

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

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|----------|---------------------------------------|---|-----------|---------|
| V_F | Maximum Instantaneous Forward Voltage | $I_F=30\text{A}; T_j=25^{\circ}\text{C}$ | 1.05 | V |
| I_R | Maximum Instantaneous Reverse Current | $V_R=V_{RWM}; T_j=25^{\circ}\text{C}$ $V_R=V_{RWM}; T_j=125^{\circ}\text{C}$ | 20 200 | μ A |
| t_{rr} | Maximum Reverse Recovery Time | $I_F=0.5\text{A}, I_R=1\text{A}, I_{rr}=0.25\text{A}$ $I_F=1\text{A}, V_R=30\text{V}, di_F/dt=200\text{A}/\mu\text{s}$ | 50 50 | ns |

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