

Ultra fast Rectifier

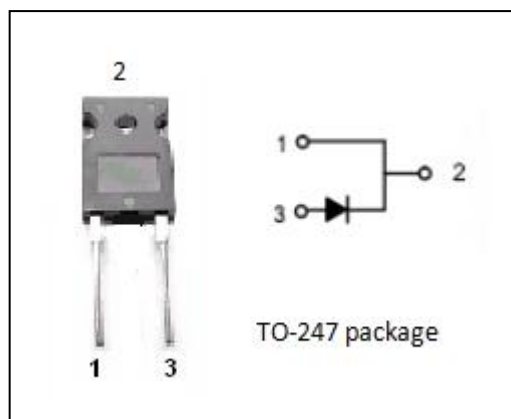
RHRG30120

FEATURES

- High junction temperature capability
- Low forward voltage
- High current capability
- Low power loss, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------------------------|--|---------|--------------------|
| V_{RRM} V_{RMS} V_R | Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage | 1200 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current @ $T_c=110^{\circ}\text{C}$ | 30 | A |
| $I_{F(RMS)}$ | RMS Forward Current | 60 | A |
| I_{FSM} | Nonrepetitive Peak Surge Current (60Hz single half sine-wave superimposed on rated load conditions) | 300 | A |
| T_J | Junction Temperature | -65~175 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~175 | $^{\circ}\text{C}$ |

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 1%)

| SYMBOL | PARAMETER | | | CONDITIONS | MAX | UNIT |
|----------|-------------------------------|---------------|---------|---|-------------|---------|
| V_F | Maximum Voltage | Instantaneous | Forward | $I_F = 30A; T_c = 25^\circ C$ $I_F = 30A; T_c = 150^\circ C$ | 3.2 2.6 | V |
| I_R | Maximum Current | Instantaneous | Reverse | $V_R = \text{rated } V_{RRM}; T_c = 25^\circ C$ $V_R = \text{rated } V_{RRM}; T_c = 150^\circ C$ | 250 1000 | μ A |
| t_{rr} | Maximum Reverse Recovery Time | | | $I_F = 1A; diF/dt = 100A/\mu s$ | 65 | ns |

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