

# 60A, 650V SIC Schottky Rectifier

## FEATURES

- 650V schottky rectifier
- Zero reverse recovery current
- Zero forward recovery voltage
- Switching characteristics independent on temperature
- Positive temperature coefficient of forward voltage
- High temperature soldering guaranteed: 270°C/10 seconds
- RoHS compliant, halogen free

## MECHANICAL DATA

- Case: TO-247
- Case material: molding compound meets UL 94V-0 flammability rating

## TYPICAL APPLICATION

General purpose use in HAVC, SMPS, AC/DC converters, free wheeling diodes in inverter stages.

## MAXIMUM RATINGS

T<sub>J</sub>=25°C unless otherwise noted

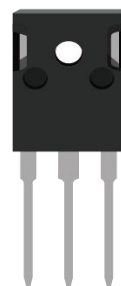
| Parameter   | Symbol            | Value       | Unit |
|---|-------------------|-------------|------|
| Repetitive Peak Reverse Voltage   | V <sub>RRM</sub>  | 650         | V    |
| Cotinuuous Forward Current(T <sub>C</sub> =130°C)                                 | I <sub>F</sub>    | 60          | A    |
| Repetitive Peak Forward Surge Current (tp=10ms, T <sub>C</sub> =25°C)             | I <sub>FRM</sub>  | 200         | A    |
| Peak Forward Surge Current (tp=10ms, T <sub>C</sub> =25°C)                        | I <sub>FSM</sub>  | 240         | A    |
| Non-repetitive Peak Forward Surge Current Per Leg (tp=10ms, T <sub>C</sub> =25°C) | I <sub>FMAX</sub> | 1600        | A    |
| Power Dissipation, Per Leg<br>T <sub>C</sub> =25°C<br>T <sub>C</sub> =110°C       | P <sub>tot</sub>  | 283<br>123  | W    |
| Operating Junction Temperature Range  | T <sub>J</sub>    | -55 to +175 | °C   |
| Storage Temperature Range   | T <sub>STG</sub>  | -55 to +175 | °C   |

## ELECTRICAL CHARACTERISTICS

T<sub>J</sub>=25°C unless otherwise noted

| Parameter                           | Test Conditions              | Symbol           | Value |      | Unit |
|-------------------------------------|------------------------------|------------------|-------|------|------|
|                                     |                              |                  | Typ.  | Max. |      |
| Forward Voltage@I <sub>F</sub> =30A | T <sub>J</sub> =25°C         | V <sub>F</sub>   | 1.45  | 1.8  | V    |
|                                     | T <sub>J</sub> =175°C        |                  | 1.7   | 2    |      |
| Reverse Current @ V <sub>RRM</sub>  | T <sub>J</sub> =25°C         | I <sub>R</sub>   | 2     | 20   | μA   |
|                                     | T <sub>J</sub> =175°C        |                  | 40    | 200  |      |
| Total Capacitance                   | V <sub>R</sub> =0V, f=1MHz   | C                | 2050  | -    | pF   |
|                                     | V <sub>R</sub> =200V, f=1MHz |                  | 162   | -    |      |
|                                     | V <sub>R</sub> =400V, f=1MHz |                  | 137   | -    |      |
| Total Capacitance Charge            | V <sub>R</sub> =400V         | Q <sub>C</sub>   | 85    | -    | nC   |
| Capacitance Stored Energy           | V <sub>R</sub> =400V         | E <sub>C</sub>   | 21    | -    | μJ   |
| Thermal Resistance                  | Junction to case             | R <sub>θJC</sub> | 0.53  |      | °C/W |

TO-247



RoHS  
COMPLIANT

HALOGEN  
FREE

### RATINGS AND CHARACTERISTIC CURVES

FIG.1: Forward Characteristics

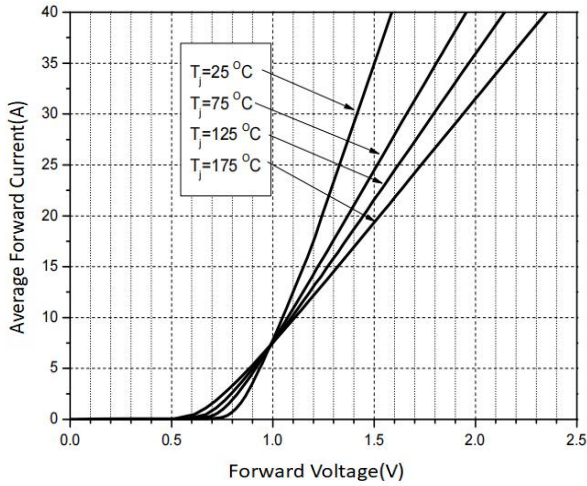


FIG.2: Reverse Characteristics

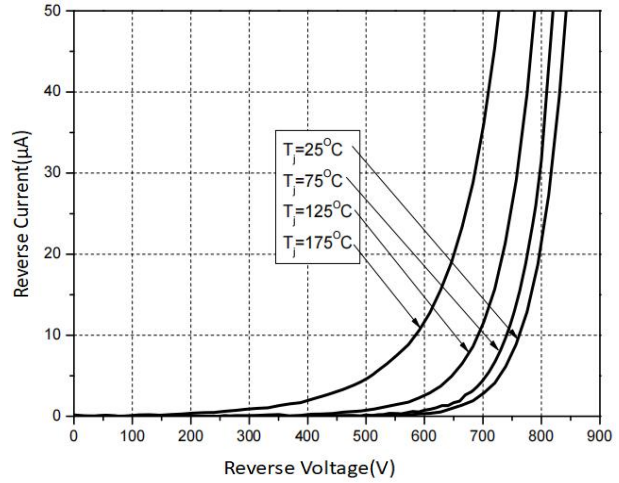


FIG.3: Capacitance Charge vs. Reverse Voltage

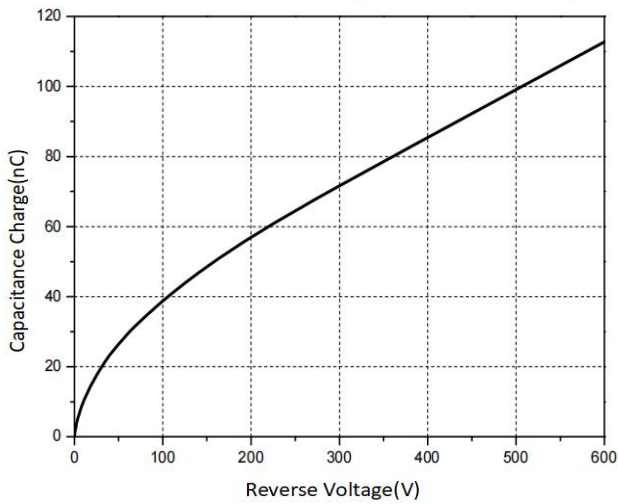


FIG.4: Capacitance Stored Energy

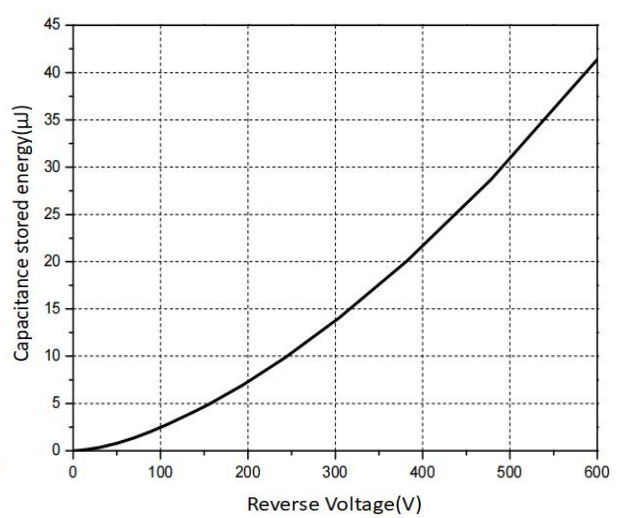


FIG.5: Power Derating

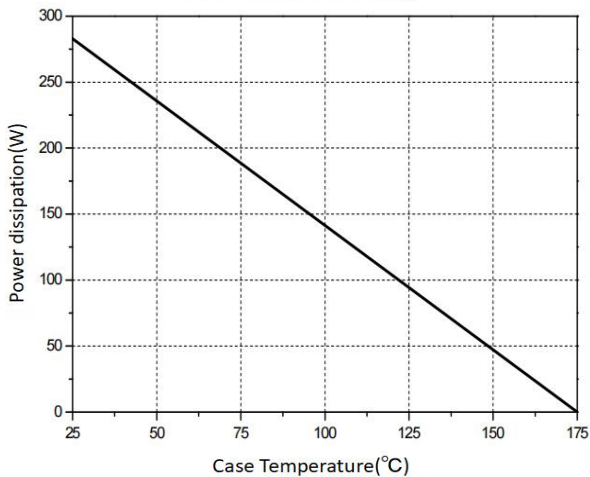
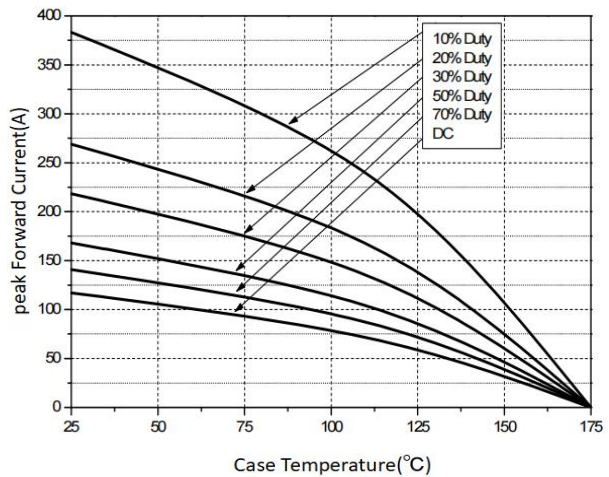
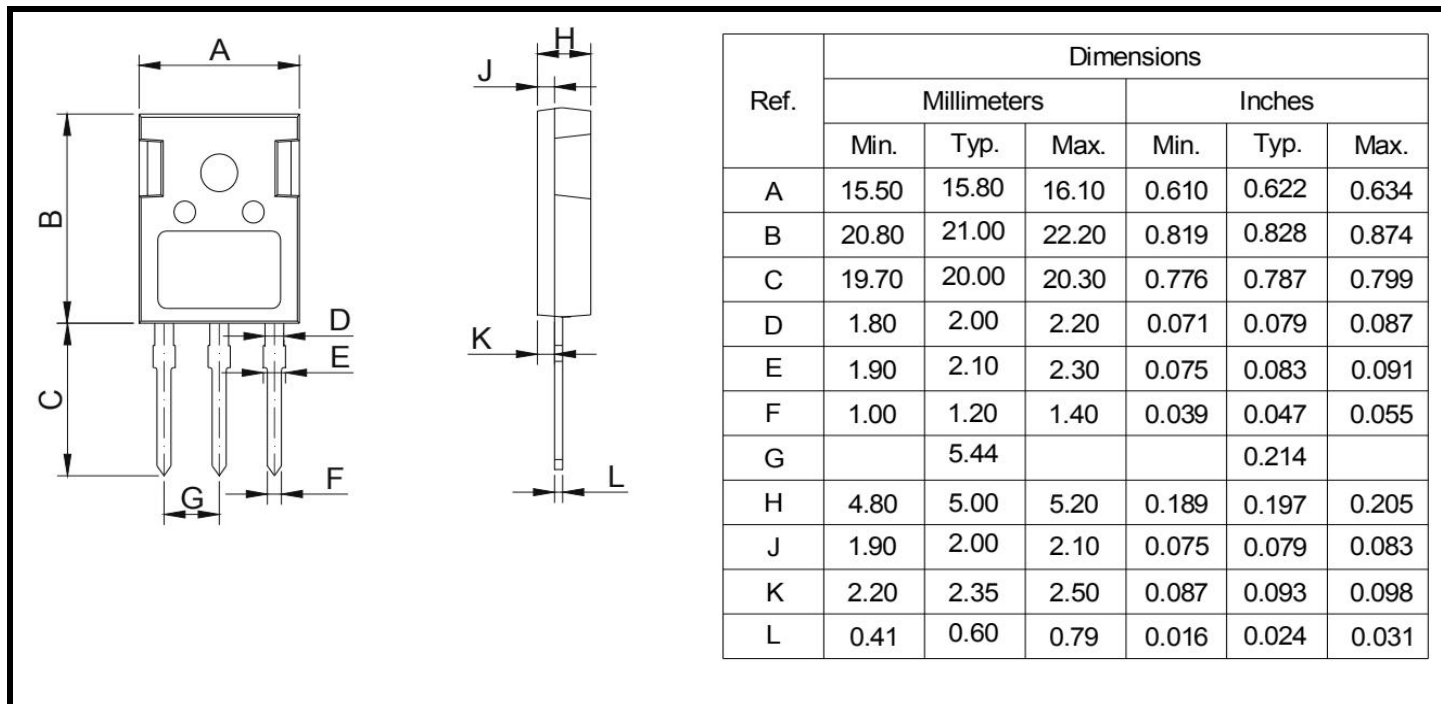


FIG.6: Current Derating



**60A, 650V SIC Schottky Rectifier**
**PACKAGE OUTLINE DIMENSIONS**

**PACKING INFORMATION**

| Package | Tube(PCS) | Inner Box(PCS) | Carton(PCS) |
|---------|-----------|----------------|-------------|
| TO-247  | 30        | 450            | 2,250       |