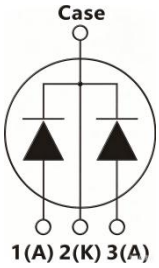
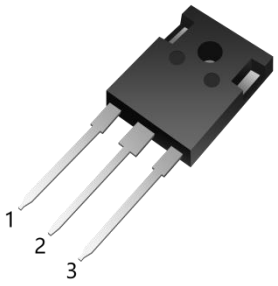
# Silicon Carbide Schottky Diode

| Parameter | Value | Unit |
|---|---|---|
| $V_{RRM}$ | 1200 | V |
| $I_F$ | 20* | A |
| $Q_C$ | 116* | nC |




TO-247-3L

## Features

- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behavior
- High temperature operation
- High frequency operation

## Applications

- Switched-Mode Power Supply
- Power Factor Correction
- Uninterruptible Power Supply
- Motor drives
- Photovoltaic inverters
- High-power adapters

## Maximum Ratings (at $T_J$=25℃ unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | 1200 | V |
| Surge Peak Reverse Voltage | $V_{RSM}$ | 1200 | V |
| Continuous Forward Current<br>$T_C$=25℃<br>$T_C$=153℃ | $I_F$ | <br>62*<br>20* | A |
| Non-Repetitive Forward Surge Current<br>$T_C$ = 25℃,tp=10ms, Half Sine Pulse | $I_{FSM}$ | 150* | A |
| Power dissipation<br>$T_C$ = 25℃,$T_j$ = 175℃ | $P_{tot}$ | 230* | W |
| Operating junction Range | $T_j$ | -55 to +175 | ℃ |
| Storage temperature Range | $T_{stg}$ | -55 to +175 | ℃ |

* Per leg;**Per device

## Thermal Characteristics

| Parameter | Symbol | Typ. | Unit |
|---|---|---|---|
| Thermal resistance, junction – case. | $R_{thJC}$ | 0.65*<br>0.325** | ℃/W |

## Electrical Characteristics(at $T_J$=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | Value | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| DC blocking voltage | $V_{DC}$ | | 1200 | | | V |
| Diode forward voltage | $V_F$ | $I_F$=20A ,$T_j$=25℃<br>$I_F$=20A ,$T_j$=175℃ | | 1.45<br>1.88 | 1.61 | V |
| Reverse current | $I_R$ | $V_R$=1200V, $T_j$=25℃<br>$V_R$=1200V ,$T_j$=175℃ | | | 50<br>200 | μA |
| Total capacitive charge | $Q_C$ | $V_R$=1000V, $T_j$=25℃ | | 116 | | nC |
| Total capacitance | C | $T_j$ =25℃<br>$V_R$=1V , f=1MHz<br>$V_R$=400V , f=1MHz<br>$V_R$=800V , f=1MHz | | 1740<br>92<br>65 | | pF |

* Per leg **Per device

## Typical Characteristics

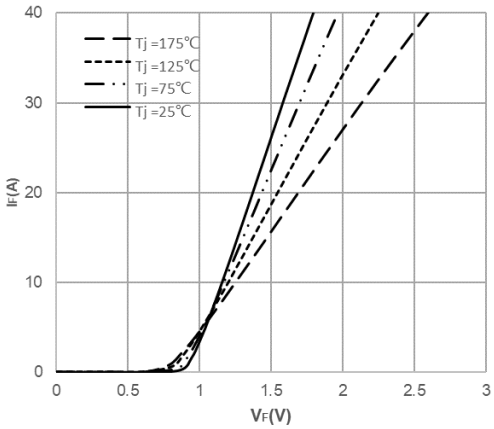



Fig1. Forward Characteristics

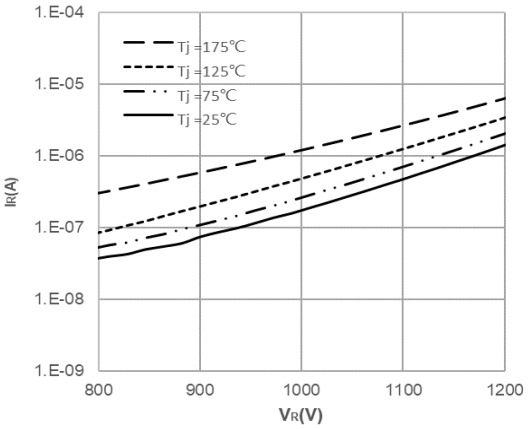



Fig2. Reverse Characteristics

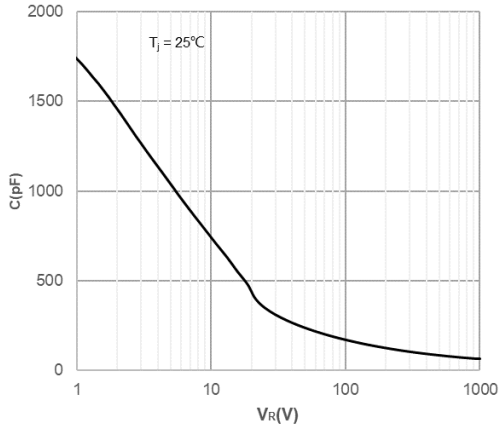



Fig3. Capacitance vs. Reverse Voltage

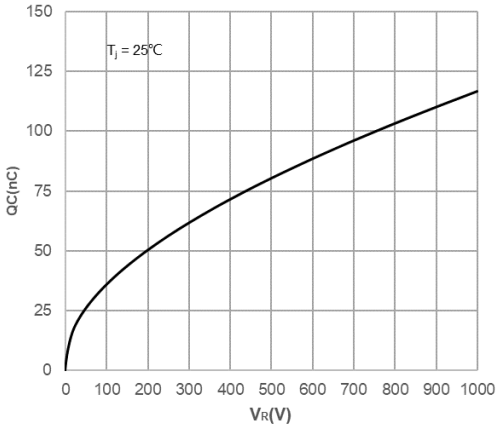
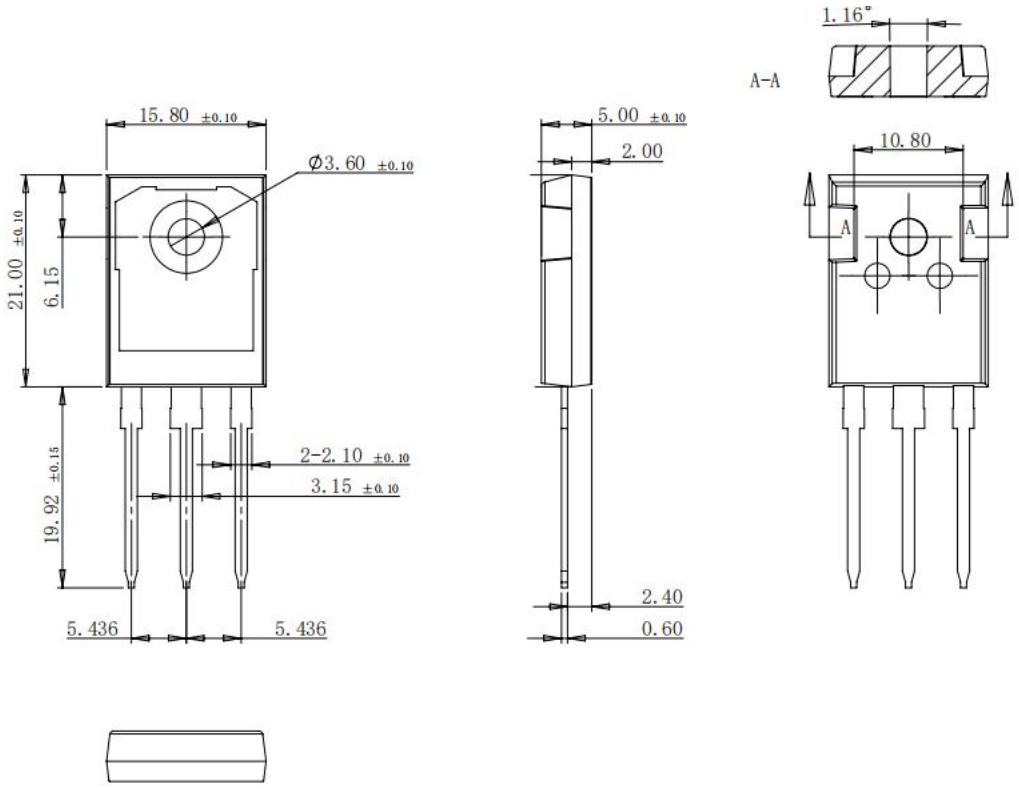



Fig4. Recovery Charge vs. Reverse Voltage

## Package Outlines(Unit:mm)

### TO-247-3L

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