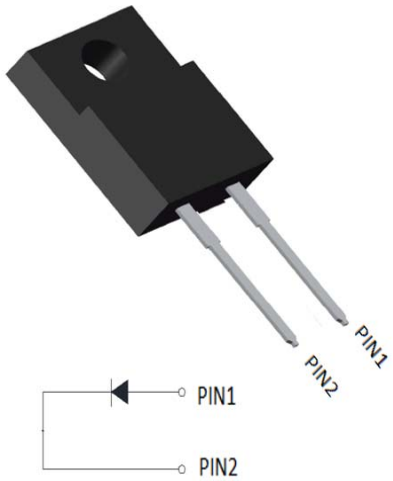
# MUR8100F

Fast Recovery Epi Diodes

## Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability




## Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

## Mechanical Data

- **Package**: TO-220AC

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant

- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity**: As marked

## ■Maximum Ratings ($T_a$=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MUR8100F |
|---|---|---|---|
| Device marking code | | | MUR8100F |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | 1000 |
| Average Rectified Output Current @60Hz sine wave, R-load, $T_C$=99℃ | $I_O$ | A | 8 |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_a$=25℃ | $I_{FSM}$ | A | 100 |
| Current Squared Time @1ms≤t≤8.3ms Tj=25℃, | $I^2t$ | $A^2s$ | 41 |
| Storage Temperature | Tstg | ℃ | -55 ~ +150 |
| Junction Temperature | Tj | ℃ | -55 ~ +150 |

## ■Electrical Characteristics（$T_a$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | MUR8100F |
|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per diode | $V_{FM}$ | V | $I_{FM}$=8.0A | 2.25 |
| Maximum DC reverse current at rated DC blocking voltage per diode | $I_{RRM1}$ | uA | $V_{RM}$=$V_{RRM}$ $T_a$=25℃ | 10 |
| | $I_{RRM2}$ | | $V_{RM}$=$V_{RRM}$ $T_a$=125℃ | 100 |
| Reverse Recovery Time | Trr | ns | $I_F$=0.5A $I_{RM}$=1A $I_{RR}$=0.25A | 50 |

## ■Characteristics (Typical)

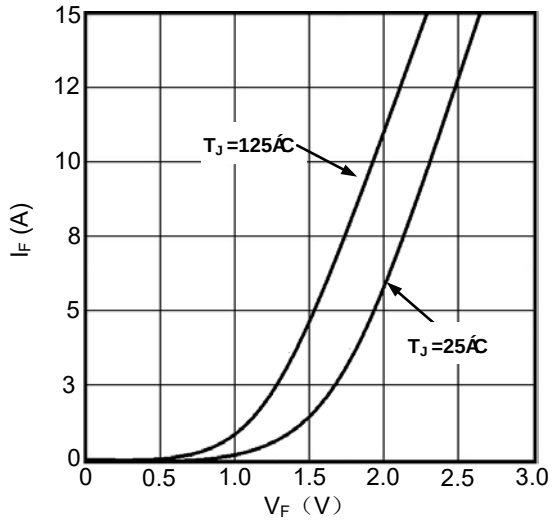



Fig1. Forward Voltage Drop vs Forward Current

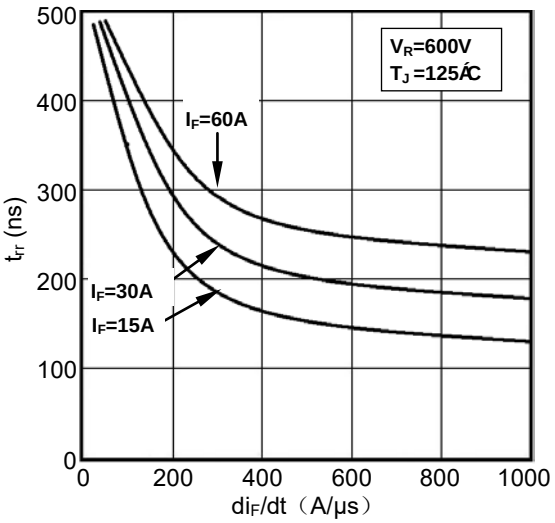



Fig2. Reverse Recovery Time vs $di_F/dt$

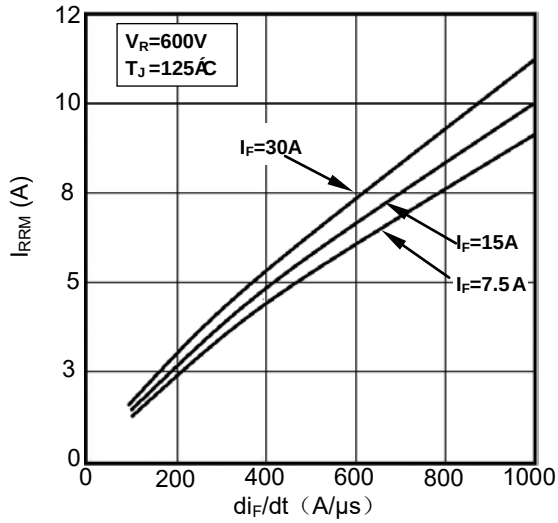



Fig3. Reverse Recovery Current vs $di_F/dt$

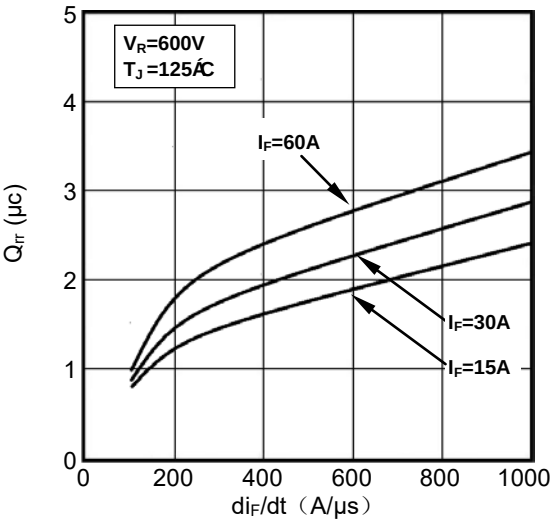



Fig4. Reverse Recovery Charge vs $di_F/dt$

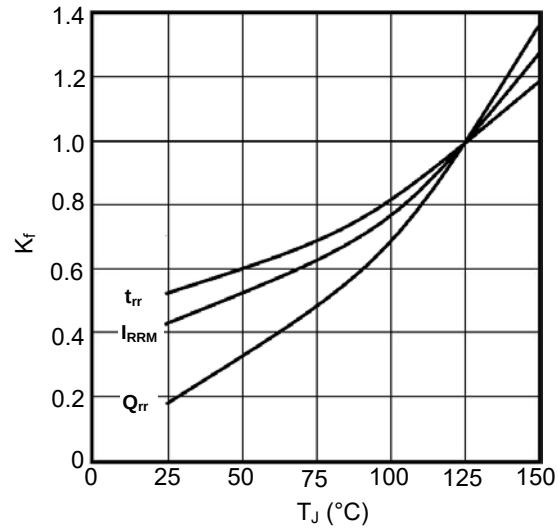



Fig5. Dynamic Parameters vs Junction Temperature

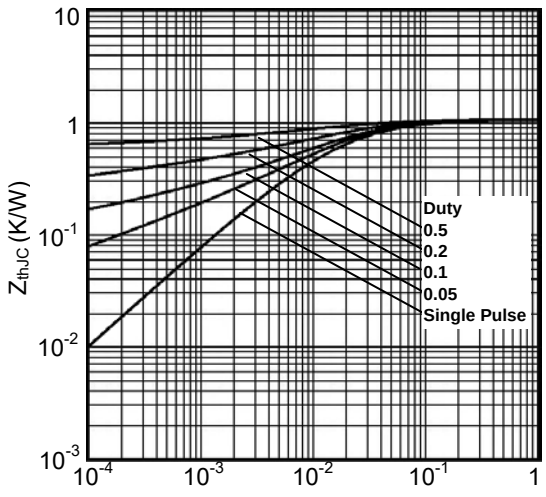



Fig6. Transient Thermal Impedance

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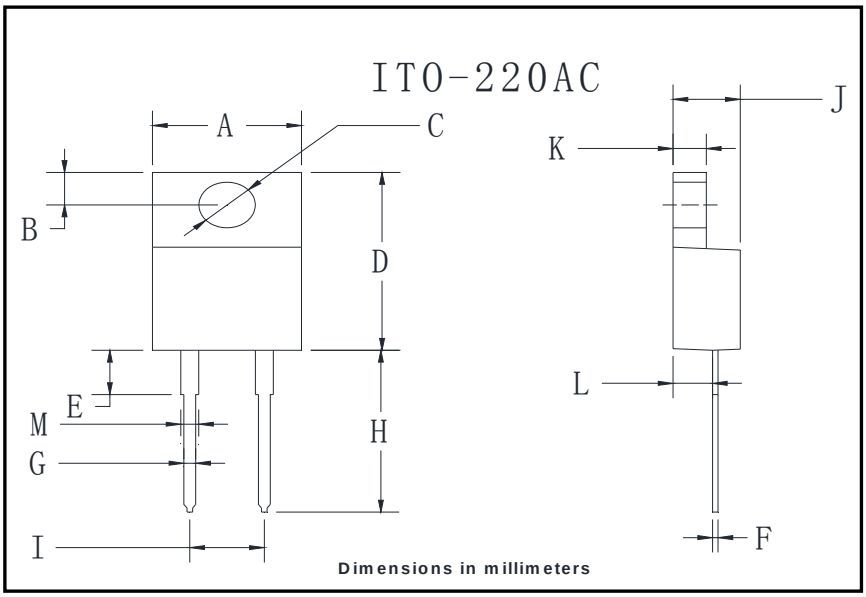
## ■Thermal Characteristics （$T_a$=25℃ Unless otherwise specified）

| PARAMETER | | SYMBOL | UNIT | MUR8100 |
|---|---|---|---|---|
| Thermal Resistance | Between junction and case | $R_{\theta J-C}$ | ℃/W | 4.0 |

## ■Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g) | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|
| MUR8100F | Approximate 0.31 | 2500 | 2500 | 25000 | Reel |

## ■Outline Dimensions




| ITO-220AC | | |
|---|---|---|
| Dim | Min | Max |
| A | 9.7 | 10.7 |
| B | 2.15 | 3.25 |
| C | 2.6 | 3.8 |
| D | 14.4 | 15.9 |
| E | 3.1 | 4.5 |
| F | 0.4 | 0.8 |
| G | 0.4 | 0.9 |
| H | 12.7 | 14.2 |
| I | 3.6 | 5.9 |
| J | 3.9 | 5.1 |
| K | 2.1 | 3.56 |
| L | 2.1 | 3.2 |
| M | 1.0 | 1.8 |

| Packge | Packing | Box Size L×W×H(mm) | Quatity(pcs/box) | Carton Size L×W×H(mm) | Quatity(pcs/carton) |
|---|---|---|---|---|---|
| ITO-220AC | 50pcs/Tube | 558×148×38 | 1000 | 565×225×170 | 5000 |