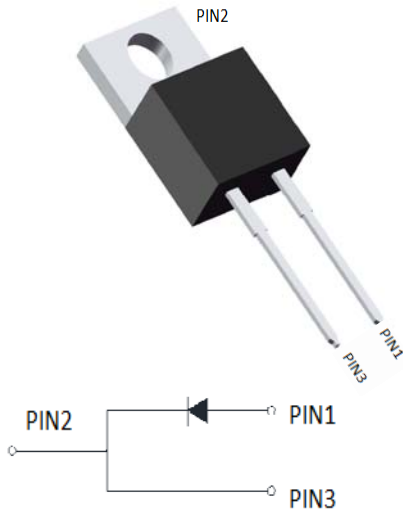


Ultra-Fast Recovery Rectifier Diodes



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
- Solder dip 275 °C max. 7 s, per JESD 22-B106

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 (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MUR810 | MUR815 | MUR820 | MUR840 | MUR860 |
|--|------------------|------------------|------------|--------|--------|--------|--------|
| Device marking code | | | MUR810 | MUR815 | MUR820 | MUR840 | MUR860 |
| Repetitive Peak Reverse Voltage | VRRM | V | 100 | 150 | 200 | 400 | 600 |
| Average Rectified Output Current @60Hz half sine-wave, R-load, Tc(FIG.1) | Io | A | 8 | | | | |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave,1 cycle, Ta=25°C | IFSM | A | 100 | | | | |
| Current Squared Time @1ms≤t≤8.3ms Tj=25°C | I ² t | A ² s | 41 | | | | |
| Storage Temperature | Tstg | °C | -55 ~ +150 | | | | |
| Junction Temperature | Tj | °C | -55 ~ +150 | | | | |

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | MUR810 | MUR815 | MUR820 | MUR840 | MUR860 |
|---|--------|------|---|--------|--------|--------|--------|--------|
| Maximum instantaneous forward voltage drop per diode | VFM | V | IFM=8.0A | 0.975 | | | 1.3 | 1.5 |
| Maximum DC reverse current at rated DC blocking voltage per diode | IRRM1 | uA | VRM=VRRM Ta=25°C | 10 | | | | |
| | IRRM2 | | VRM=VRRM Ta=125°C | 500 | | | | |
| Reverse Recovery Time | Trr | ns | IF=0.5A I _{RM} =1A I _{RR} =0.25A | 50 | | | | |

■Thermal Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MUR810 | MUR815 | MUR820 | MUR840 | MUR860 |
|--|-------------------|------|--------|--------|--------|--------|--------|
| Thermal Resistance Between junction and case | R _{θJ-C} | °C/W | 2.0 | | | | |



MUR810 THRU MUR860

Ordering Information (Example)

| PREFERRED P/N | | | | | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------|--------|--------|--------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MUR810 | MUR815 | MUR820 | MUR840 | MUR860 | Approximate 1.84 | 50 | 1000 | 5000 | Tube |

Characteristics (Typical)

FIG1: I_o - T_c Curve

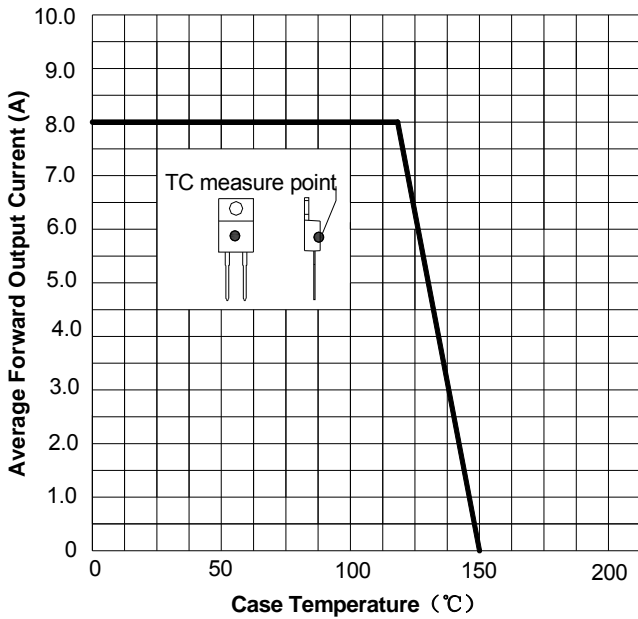


FIG2: Surge Forward Current Capability

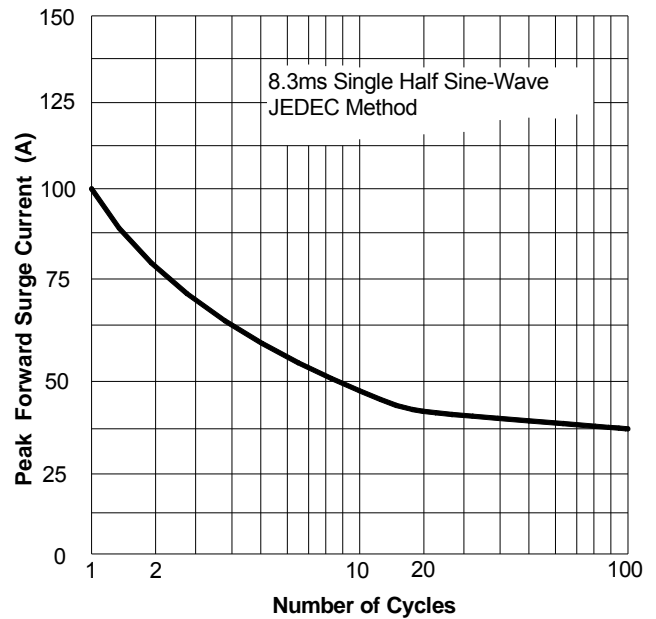


FIG3: Forward Voltage

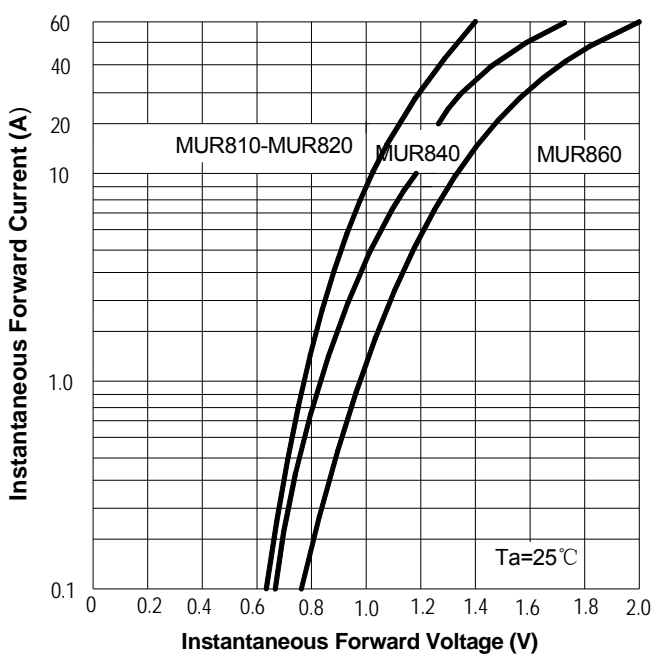
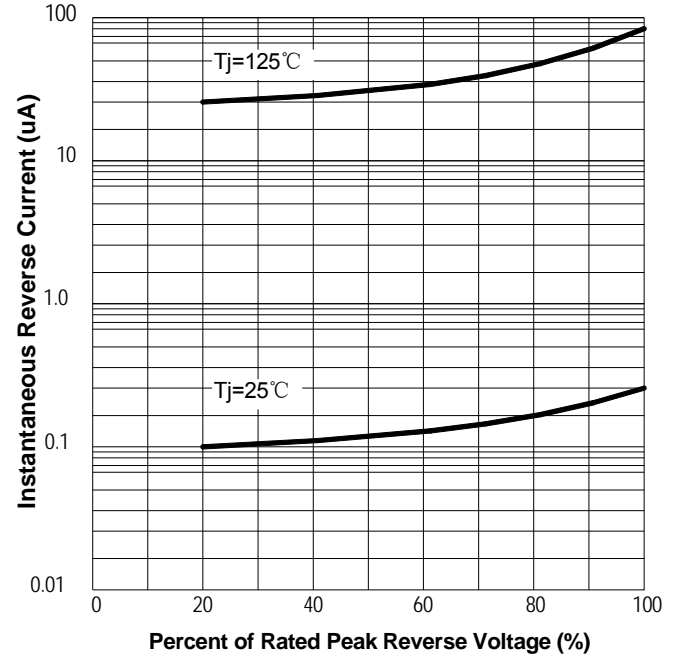


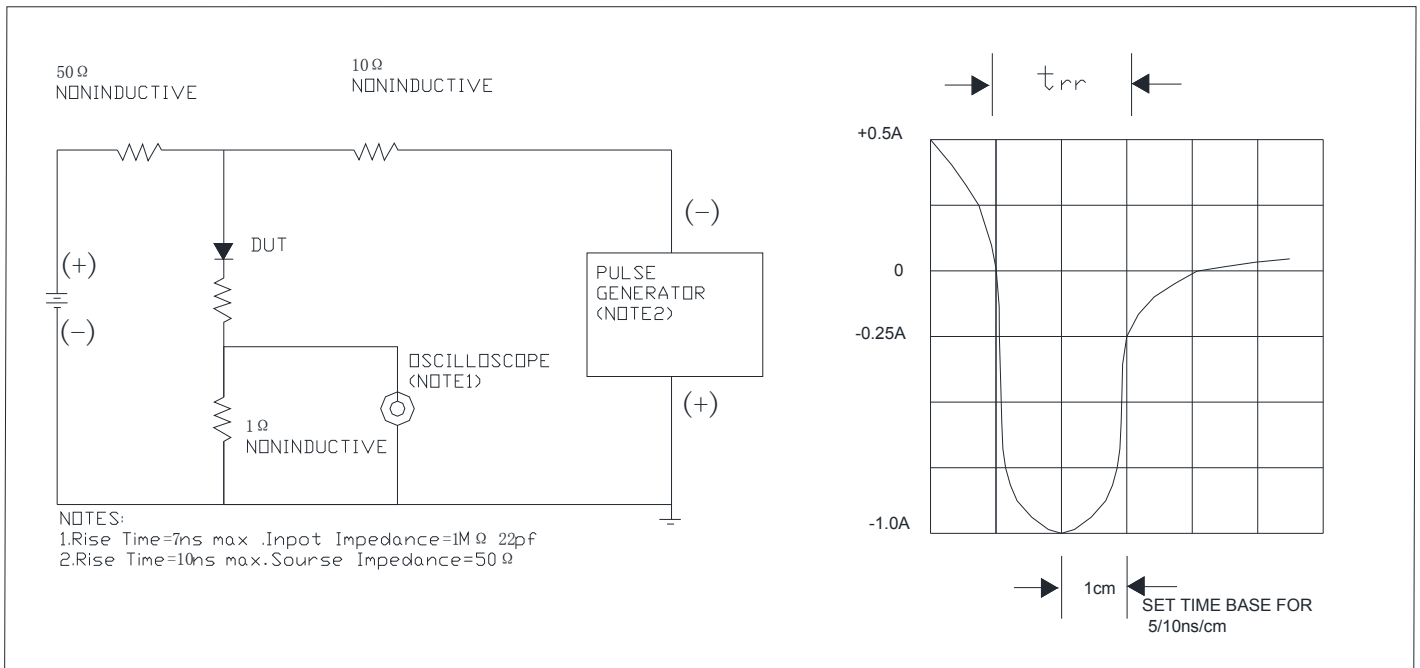
FIG4: Typical Reverse Characteristics



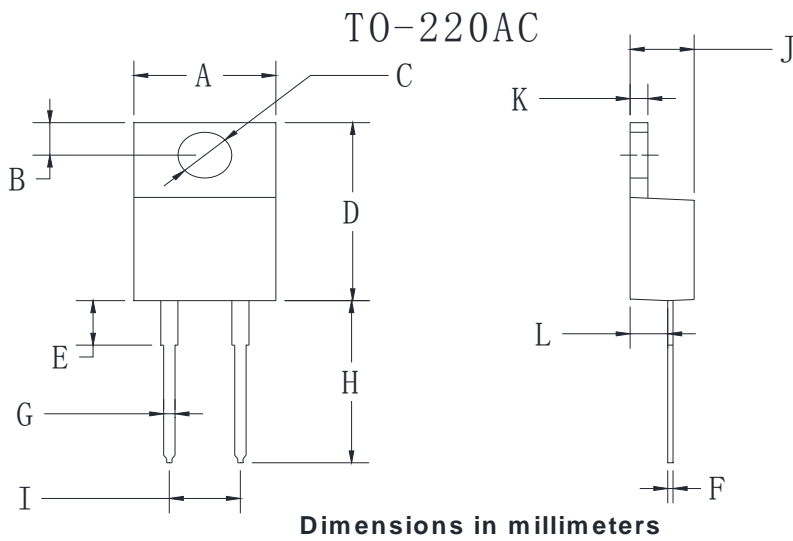


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FIG.5 Diagram of circuit and Testing wave form of reverse recovery time



Outline Dimensions



| TO-220AC | | |
|----------|-------|-------|
| Dim | Min | Max |
| A | 9.5 | 10.9 |
| B | 2.22 | 3.27 |
| C | 3.34 | 4.31 |
| D | 14.5 | 15.5 |
| E | 3.16 | 4.46 |
| F | 0.28 | 0.64 |
| G | 0.68 | 0.94 |
| H | 13.06 | 14.62 |
| I | 4.55 | 5.60 |
| J | 4.04 | 5.1 |
| K | 1.14 | 1.4 |
| L | 2.14 | 3.19 |



MUR810 THRU MUR860

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