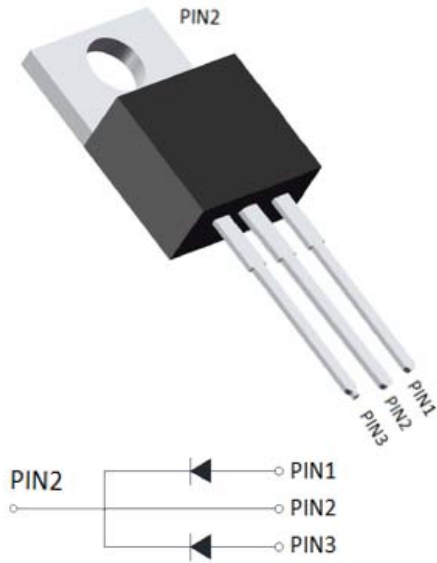




Ultra-Fast Recovery Rectifier Diodes



Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Adopt GPP chip
- Passivation 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-220AB
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 ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MUR810CT-B1-0000S | MUR815CT-B1-0000S | MUR820CT-B1-0000S | MUR840CT-B1-0000S | MUR860CT-B1-0000S |
|---|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Device marking code | | | MUR810CT | MUR815CT | MUR820CT | MUR840CT | MUR860CT |
| Repetitive Peak Reverse Voltage | VRRM | V | 100 | 150 | 200 | 400 | 600 |
| Average Rectified Output Current @60Hz half sine-wave, R-load, Tc(FIG.1) | I _o | A | 4 | | | | |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _a =25°C | IFSM | A | 75 | | | | |
| Current Squared Time @1ms≤t≤8.3ms T _j =25°C., Rating of per diode | I ² t | A ² s | 23 | | | | |
| Storage Temperature | T _{stg} | °C | -55 ~ +150 | | | | |
| Junction Temperature | T _j | °C | -55 ~ +150 | | | | |

■ Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | MUR810CT-B1-0000S | MUR815CT-B1-0000S | MUR820CT-B1-0000S | MUR840CT-B1-0000S | MUR860CT-B1-0000S |
|---|-------------------|------|--|-------------------|-------------------|-------------------|-------------------|-------------------|
| Maximum instantaneous forward voltage drop per diode | V _{FM} | V | IFM=4.0A | 0.975 | | | 1.3 | 1.5 |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _{RRM1} | uA | V _{RM} =V _{RRM} T _a =25°C | 10 | | | | |
| | I _{RRM2} | | V _{RM} =V _{RRM} T _a =125°C | 500 | | | | |
| Reverse Recovery Time | T _{rr} | ns | I _F =0.5A I _{RM} =1A I _{RR} =0.25A | 50 | | | | |

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MUR810CT-B1-0000S | MUR815CT-B1-0000S | MUR820CT-B1-0000S | MUR840CT-B1-0000S | MUR860CT-B1-0000S | |
|--------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|
| Thermal Resistance | Between junction and case | R _{θJ-C} | °C/W | 2.0 | | | | |



MUR810CT THRU MUR860CT-B1-0000S

Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g) | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|----------------------------|------------------|-----------------------|-------------------------|----------------------------|---------------|
| MUR810CT~MUR860CT-B1-0000S | Approximate 1.87 | 50 | 1000 | 5000 | Tube |

Characteristics (Typical)

FIG1: I_o -T_c Curve

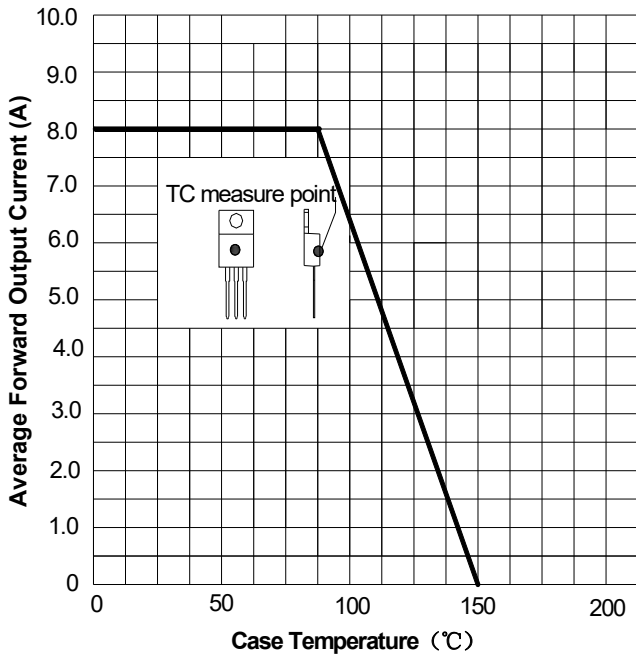


FIG2: Surge Forward Current Capability

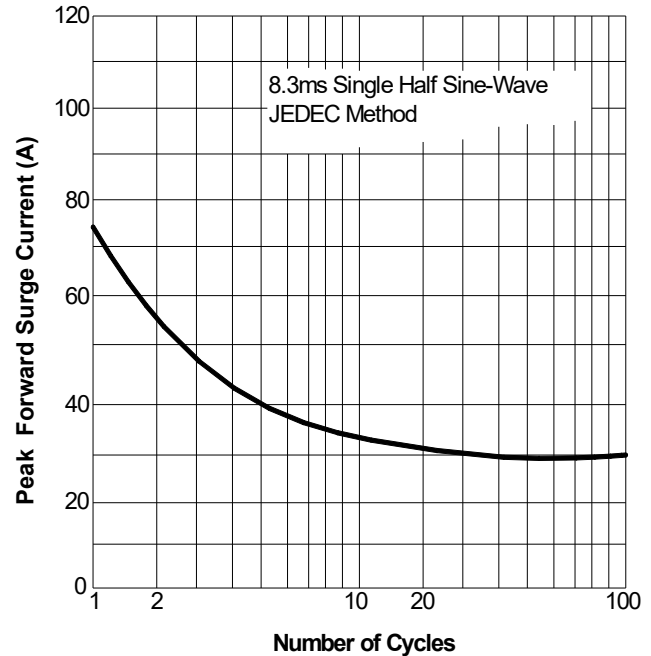


FIG3: Forward Voltage

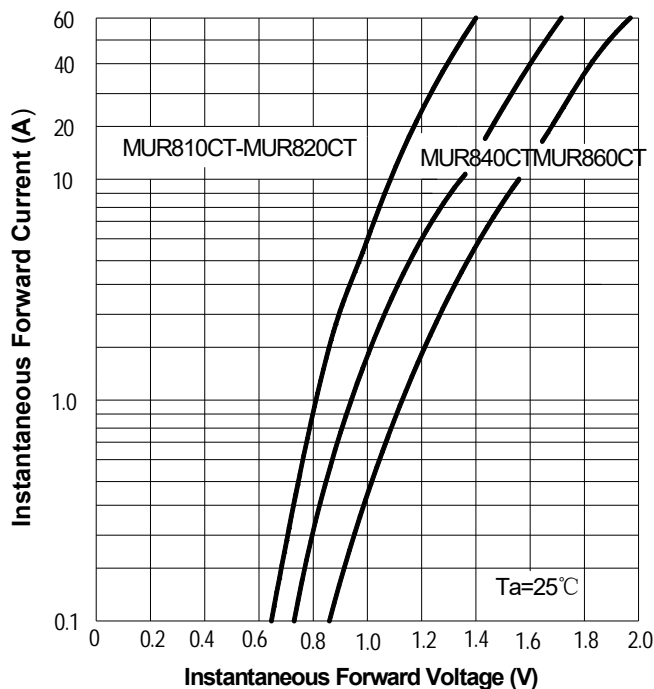
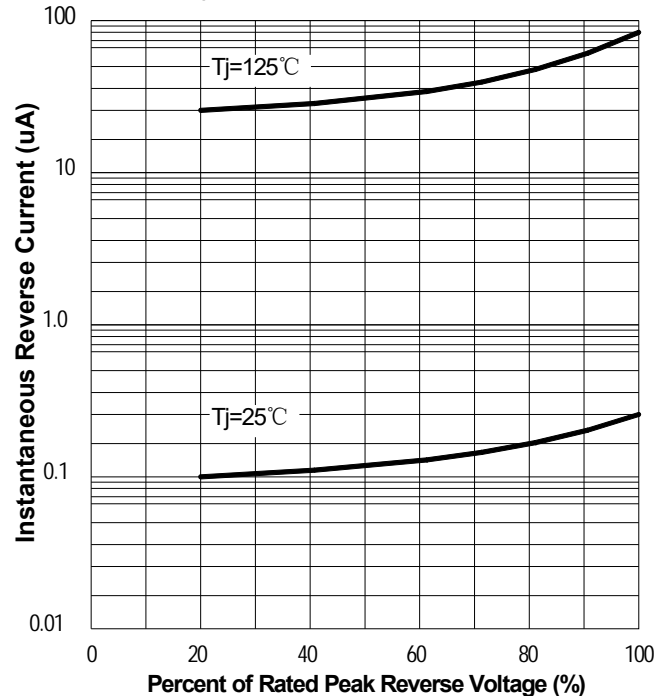


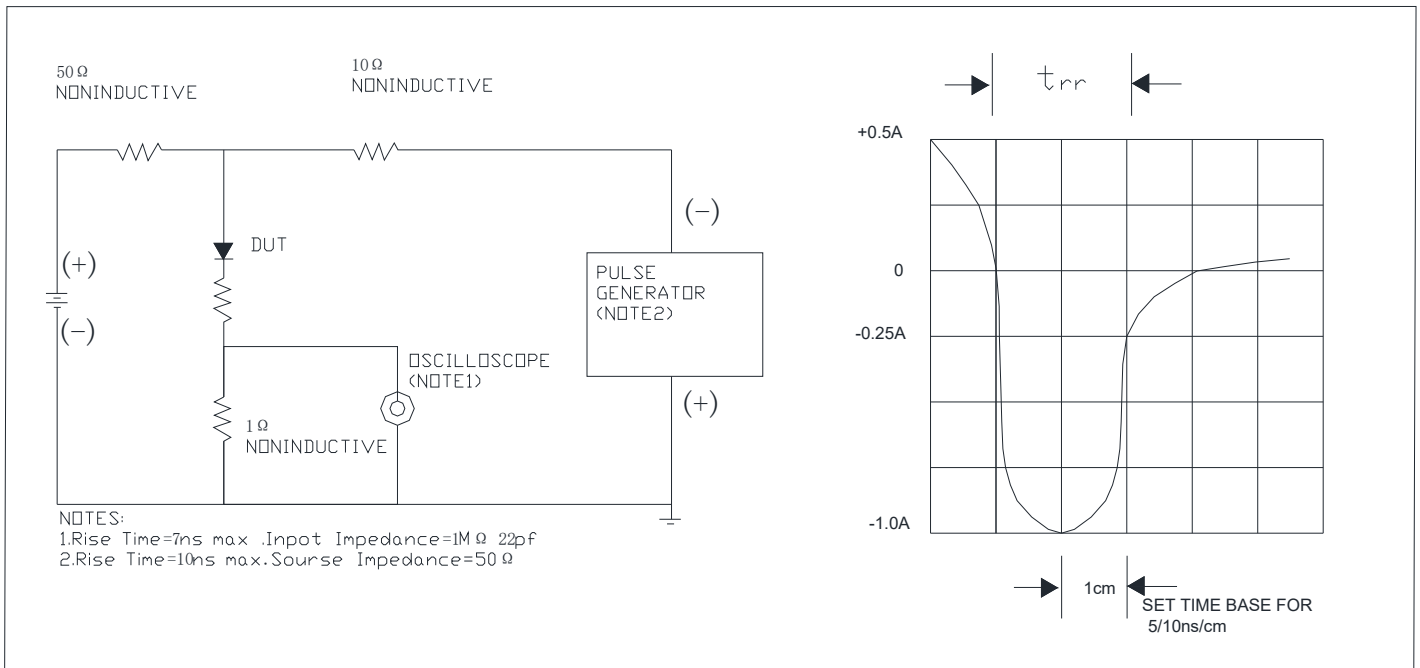
FIG4: Typical Reverse Characteristics



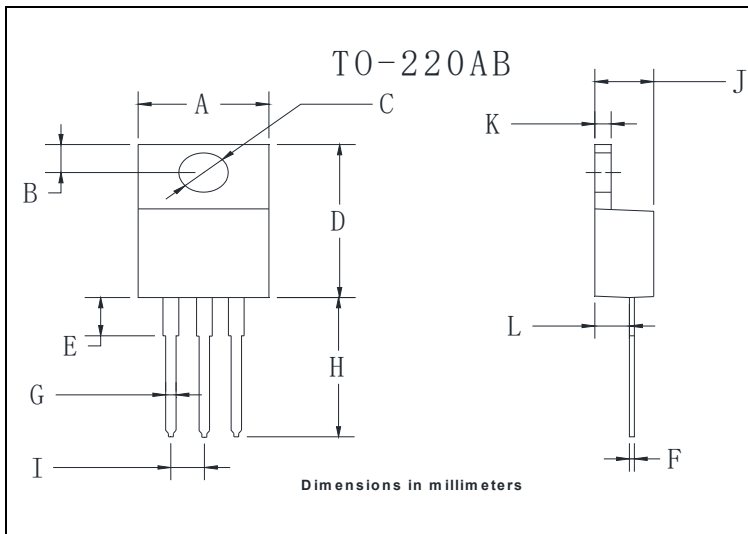


MUR810CT THRU MUR860CT-B1-0000S

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



Outline Dimensions



| TO-220AB | | |
|----------|-------|-------|
| 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 | 2.01 | 3.07 |
| J | 4.04 | 5.1 |
| K | 1.14 | 1.4 |
| L | 2.14 | 3.19 |



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