



MUR1060CT/MUR1060CTR MUR1060FCT/MUR1060FCTR

Ultra-Fast Recovery Diodes 5A*2 Pt



Features

- Adopt FRD chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

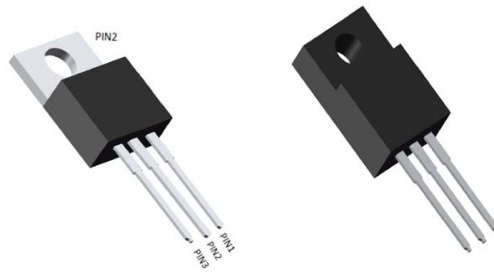
Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** TO-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

TO-220AB

ITO-220AB/TO-220F



MUR1060CT(TO-220AB)
MUR1060FCT(TO-220F)

MUR1060CTR(TO-220AB)
MUR1060FCTR(TO-220F)

■Maximum Ratings (Ta=25°C Unless otherwise specified)

| TYPE | V _{RSM} V | V _{RRM} V |
|----------------------------------|-----------------------|-----------------------|
| MUR1060CT/CTR MUR1060FCT/FCTR | 600 | 600 |

| PARAMETER | SYMBOL | UNIT | MUR1060CT/MUR1060CTR/MUR1060FCT/MUR1060FCTR |
|---|------------------|------------------|---|
| Device marking code | | | MUR1060CT/MUR1060CTR/MUR1060FCT/MUR1060FCTR |
| Repetitive Peak Reverse Voltage | V _{RRM} | V | 600 |
| Average Rectified Output Current @60Hz sine wave, R-load, T _C (FIG.1) | I _O | A | 10 |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _J =25°C | I _{FSM} | A | 120 |
| Current Squared Time @1ms≤t≤8.3ms T _J =25°C, | I ² t | A ² s | 10 |
| Storage Temperature | T _{stg} | °C | -55 ~ +175 |
| Junction Temperature | T _J | °C | -55 ~ +175 |
| Typical Junction capacitance @4V,1MHz | C _J | pF | 20 |

■Electrical Characteristics

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | Min | Typ | Max |
|---|------------|------|--|---|-------|------|
| Instantaneous forward voltage drop per diode | V_{FM} | V | $I_{FM}=5.0A @T_j=25^{\circ}C$ | - | 1.55 | 1.75 |
| | | | $I_{FM}=5.0A @T_j=150^{\circ}C$ | | 1.45 | 1.6 |
| DC reverse current at rated DC blocking voltage per diode | I_{RRM1} | uA | $V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$ | - | - | 5.0 |
| | I_{RRM2} | | $V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$ | - | 35 | 200 |
| Reverse Recovery Time | T_{rr} | ns | $I_F=0.5A I_{RM}=1A$ $I_{RR}=0.25A T_j=25^{\circ}C$ | - | 35 | 50 |
| | | | $T_j=25^{\circ}C$ | - | 50.8 | - |
| | | | $T_j=125^{\circ}C$ | - | 81.8 | - |
| Peak recovery current | I_{RRM} | A | $T_j=25^{\circ}C$ | - | 3.06 | - |
| | | | $T_j=125^{\circ}C$ | $I_F=5A$ $di/dt=-200A/us$ $V_{RM}=200V$ | - | 5.07 |
| Reverse recovery charge | Q_{rr} | nC | $T_j=25^{\circ}C$ | - | 78.88 | - |
| | | | $T_j=125^{\circ}C$ | - | 280 | - |

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

| PARAMETER | | SYMBOL | UNIT | MUR1060CT/CTR |
|--------------------|---------------------------|------------------|---------------|---------------|
| Thermal Resistance | Between junction and case | $R_{\theta J-C}$ | $^{\circ}C/W$ | 2.0 |
| Thermal Resistance | Between junction and Air | $R_{\theta J-A}$ | $^{\circ}C/W$ | 50 |

■Ordering Information (Example)

| PREFERRED P/N | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|----------------------------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MUR1060CT/CTR MUR1060FCT/FCTR | Approximate 1.88 | 50 | 1000 | 5000 | Tube |

■Characteristics (Typical)

FIG1: I_o - T_c Curve

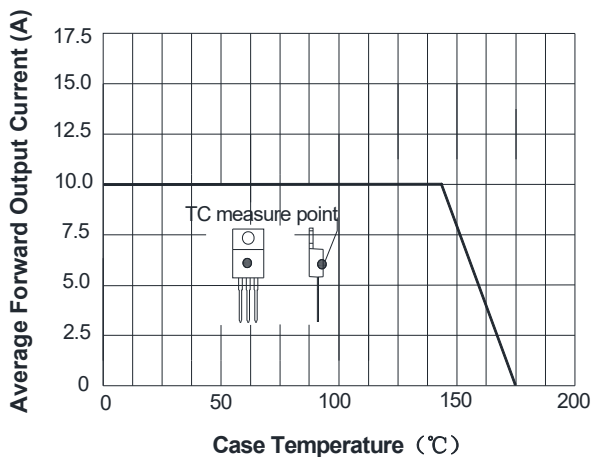


FIG2: Surge Forward Current Capability

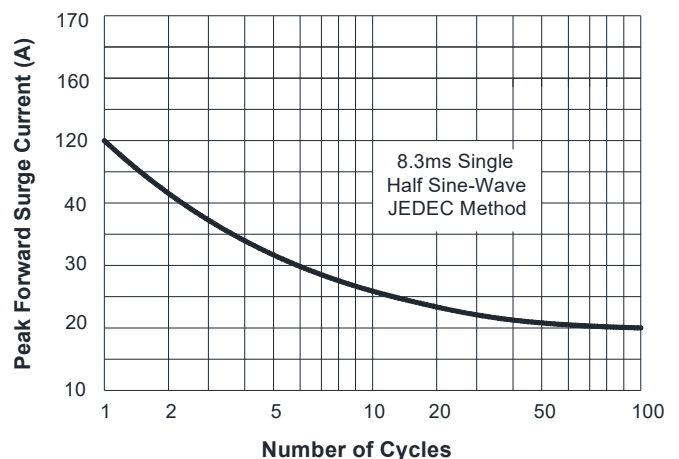
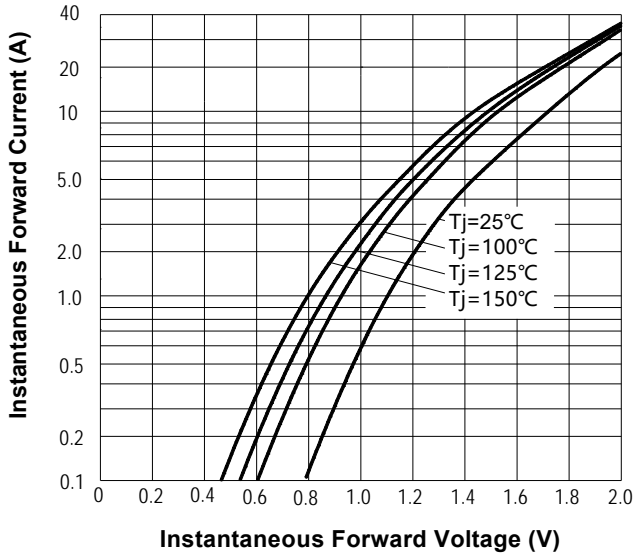
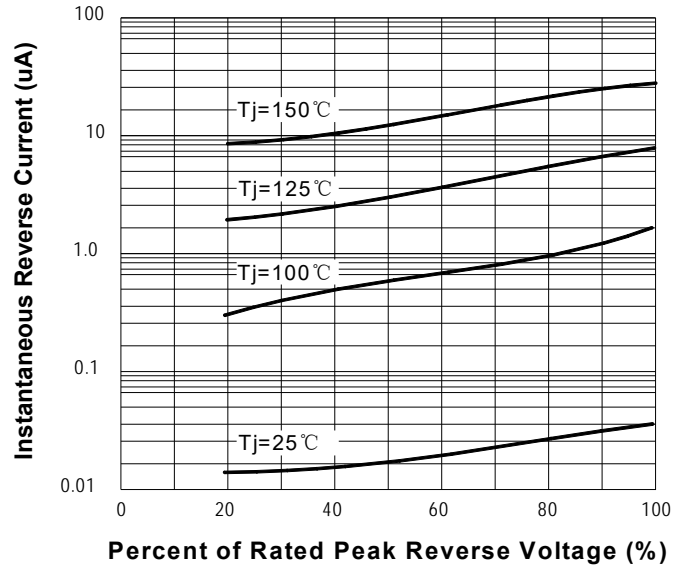
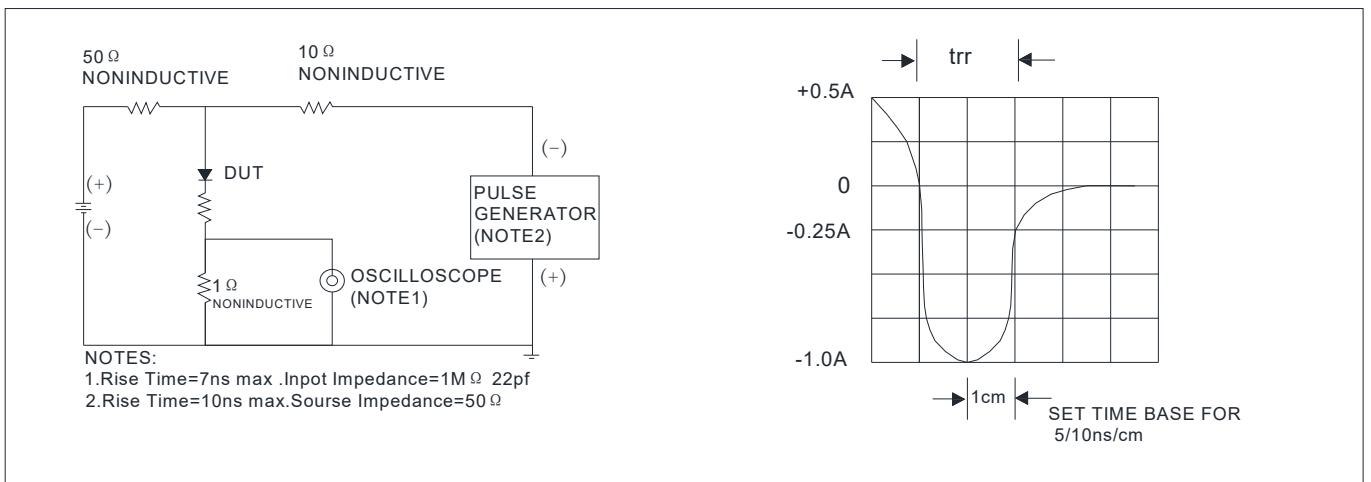
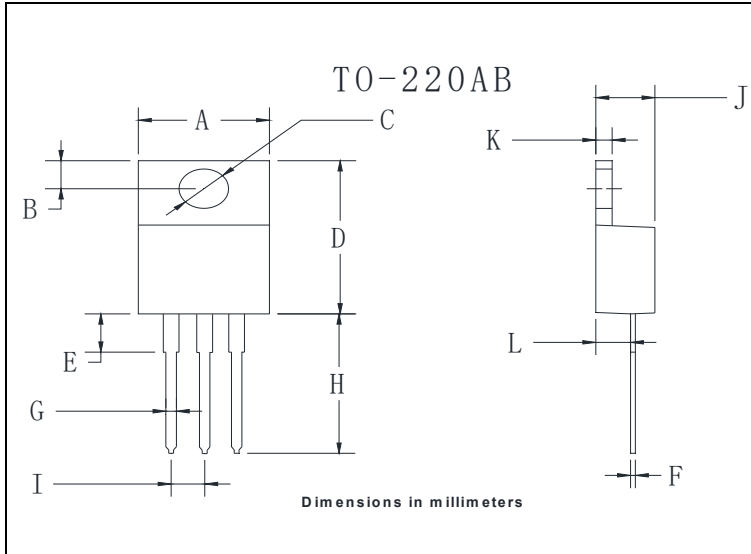
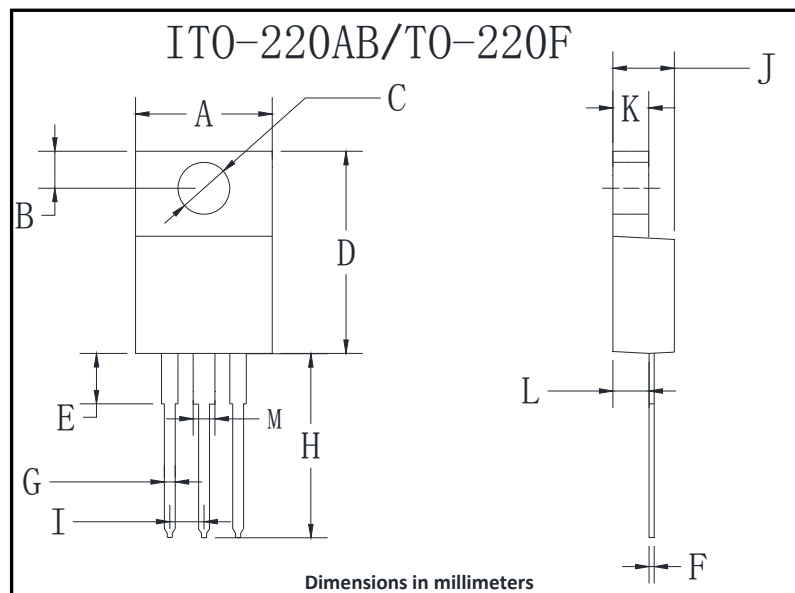


FIG3: Forward Voltage

FIG.4: Instantaneous Reverse Characteristics

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


■ Outline Dimensions



| TO-220AB | | |
|----------|-------|-------|
| Dim | Min | Max |
| A | 9.95 | 10.35 |
| B | 2.55 | 2.95 |
| C | 3.8 | 4.0 |
| D | 14.95 | 15.25 |
| E | 3.75 | 4.25 |
| F | 0.26 | 0.5 |
| G | 0.68 | 0.94 |
| H | 13.4 | 13.9 |
| I | 2.35 | 2.65 |
| J | 4.38 | 4.78 |
| K | 1.14 | 1.4 |
| L | 2.37 | 2.79 |



| ITO-220AB/TO-220F | | |
|-------------------|-------|-------|
| Dim | Min | Max |
| A | 9.8 | 10.2 |
| B | 2.25 | 2.75 |
| C | 2.95 | 3.45 |
| D | 14.75 | 15.25 |
| E | 3.05 | 3.95 |
| F | 0.45 | 0.75 |
| G | 0.45 | 0.75 |
| H | 13.4 | 14.2 |
| I | 2.35 | 2.75 |
| J | 4.3 | 4.8 |
| K | 2.58 | 2.82 |
| L | 2.58 | 2.82 |
| M | 1.47 | 1.77 |