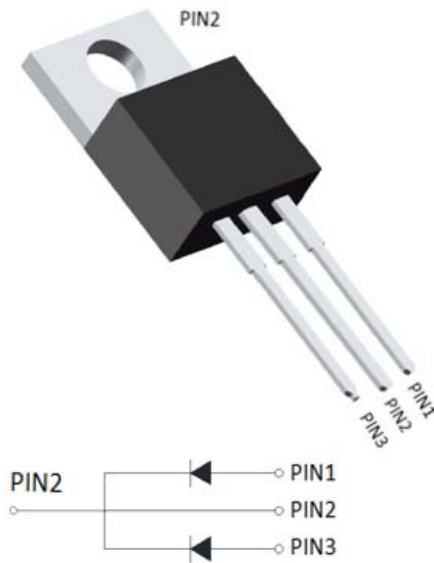


Ultra-Fast Recovery Diodes 8A*2 FRED Pt



Features

- Adopt FRED 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

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

| PARAMETER | SYMBOL | UNIT | MUR1620CT |
|---|------------------|------------------|------------|
| Device marking code | | | MUR1620CT |
| Repetitive Peak Reverse Voltage | VRRM | V | 200 |
| Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1) | I _O | A | 16 |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C | I _{FSM} | A | 100 |
| Current Squared Time @1ms≤t≤8.3ms T _j =25°C, | I ² t | A ² s | 41 |
| Storage Temperature | T _{stg} | °C | -55 ~ +175 |
| Junction Temperature | T _j | °C | -55 ~ +175 |
| Typical Junction capacitance @4V,1MHz | C _j | pF | 70 |



MUR1620CT

■Electrical Characteristics

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | Min | Typ | Max | |
|---|------------|------|--|--------------------|------|------|---|
| Instantaneous forward voltage drop per diode | V_{FM} | V | $I_{FM}=8.0A @ T_j=25^{\circ}C$ | - | 0.90 | 1.0 | |
| | | | $I_{FM}=8.0A @ T_j=150^{\circ}C$ | - | 0.78 | 0.9 | |
| DC reverse current at rated DC blocking voltage per diode | I_{RRM1} | uA | $V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$ | - | - | 5 | |
| | I_{RRM2} | | $V_{RM}=V_{RRM}$ $T_j=150^{\circ}C$ | - | 20 | 50 | |
| Reverse Recovery Time | T_{rr} | ns | $I_F=0.5A$ $I_{RM}=1A$ $I_{RR}=0.25A$ $T_j=25^{\circ}C$ | - | 25 | 35 | |
| | | | | $T_j=25^{\circ}C$ | - | 19.7 | - |
| | | | | $T_j=125^{\circ}C$ | - | 35.9 | - |
| Peak recovery current | I_{RRM} | A | $I_F=8A$ $di/dt=-200A/us$ $V_{RM}=100V$ | $T_j=25^{\circ}C$ | - | 3.73 | - |
| | | | | $T_j=125^{\circ}C$ | - | 6.61 | - |
| Reverse recovery charge | Q_{rr} | nC | $T_j=25^{\circ}C$ $T_j=125^{\circ}C$ | - | 42.7 | - | |
| | | | | - | - | 120 | - |

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

| PARAMETER | | SYMBOL | UNIT | MUR1620CT |
|--------------------|---------------------------|------------------|---------------|-----------|
| 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 |
|---------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MUR1620CT | Approximate 1.88 | 50 | 1000 | 5000 | Tube |

■Characteristics (Typical)

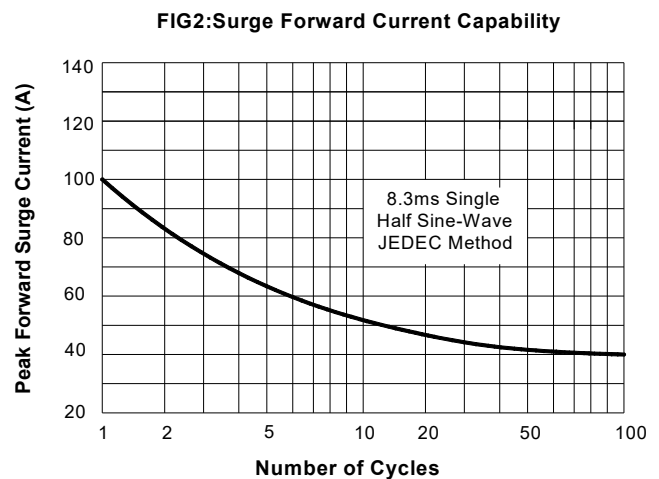
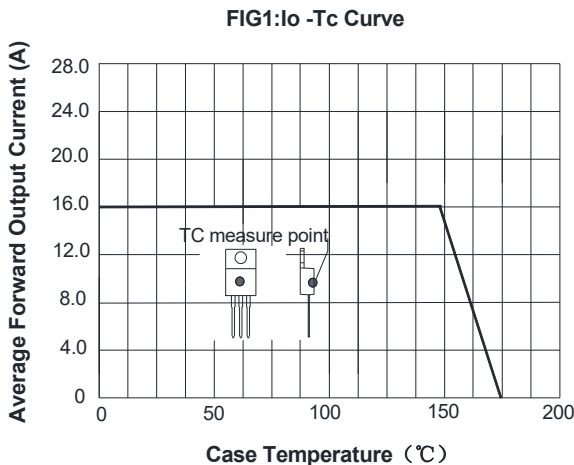


FIG3: Forward Voltage

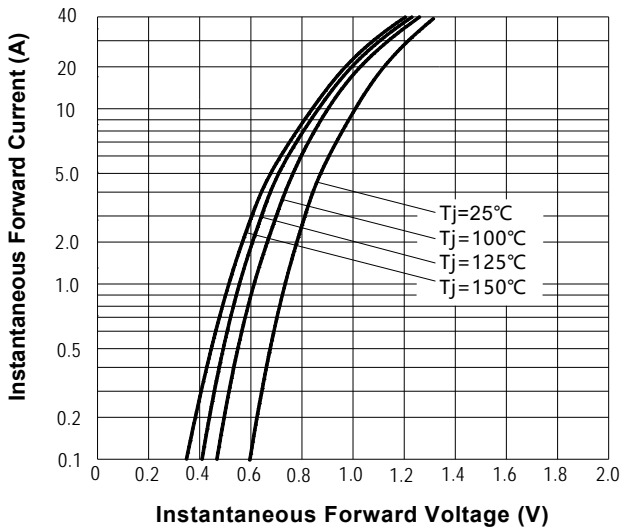


FIG.4: Instantaneous Reverse Characteristics

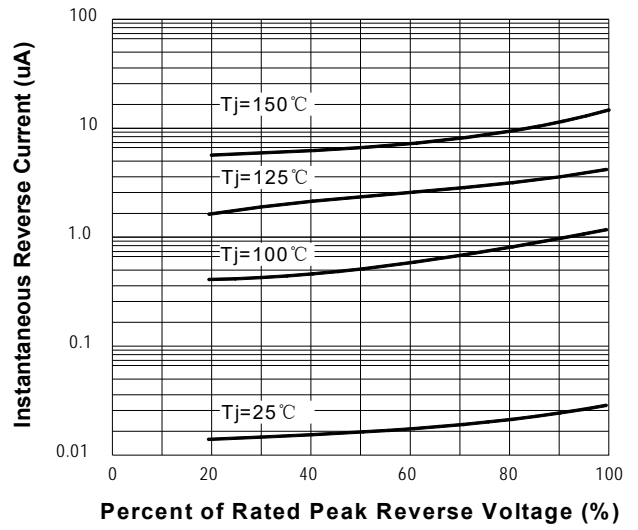
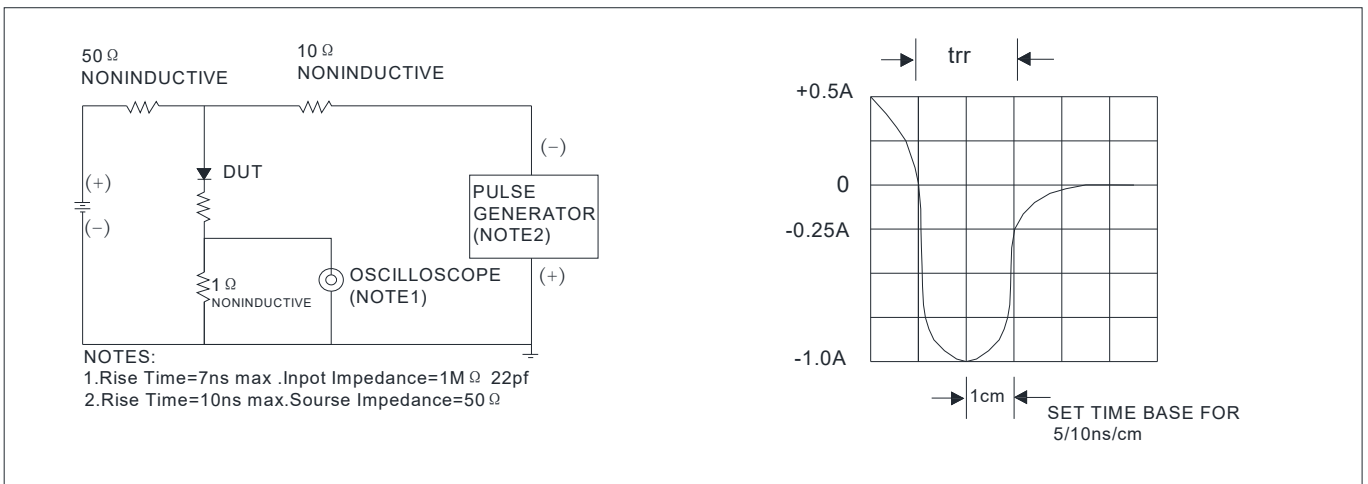


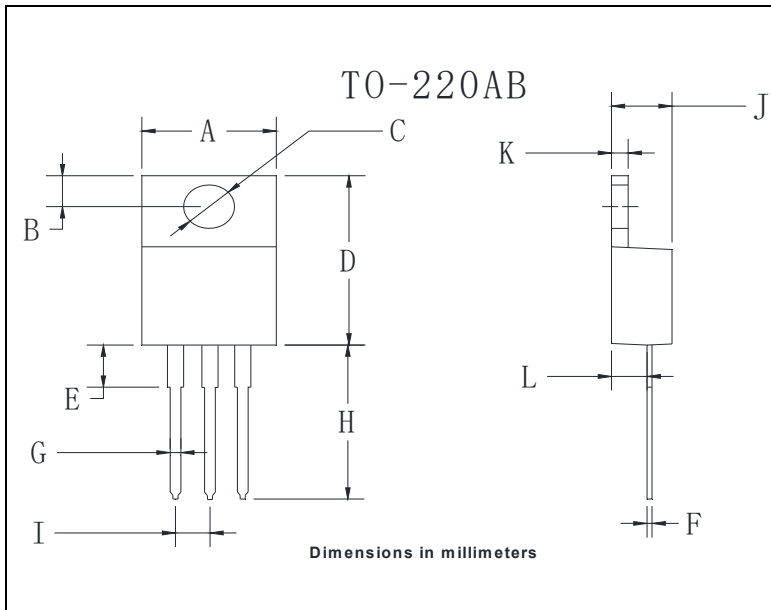
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





MUR1620CT

■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 |



MUR1620CT

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