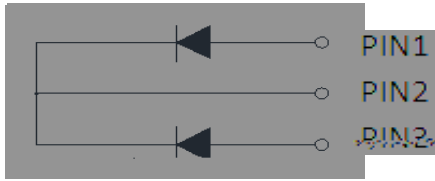
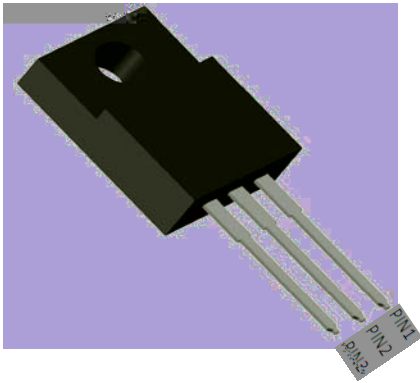


## Ultra-Fast Recovery Diodes 5A\*2 FRED



### 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:** ITO-220AB

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

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

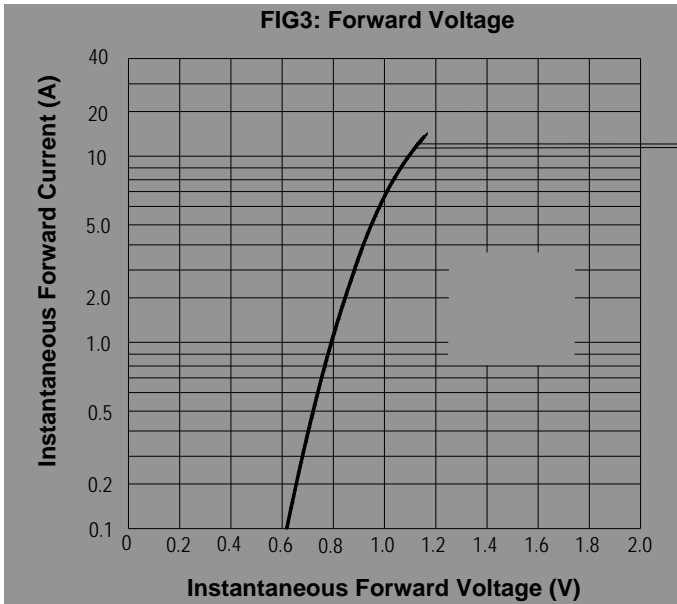
**Polarity:** As marked

### Maximum Ratings (T<sub>j</sub>=25 °C Unless otherwise specified)

| PARAMETER  | SYMBOL           | UNIT             | MUR1020FCT |
|--|------------------|------------------|------------|
| Device marking code                                  |                  |                  | MUR1020FCT |
| Forward Current (non-repetitive)                     | I <sub>FSM</sub> | A                | 50         |
| Current Squared Time @1ms t 8.3ms T <sub>j</sub> =25 | I <sup>2</sup> t | A <sup>2</sup> s | 10         |
| Storage Temperature                                  | T <sub>stg</sub> |                  | -55 ~ +175 |
| Junction Temperature                                 | T <sub>j</sub>   |                  | -55 ~ +175 |
| Typical Junction capacitance @4V,1MHz                | C <sub>j</sub>   | pF               | 50         |
| Mounting torque @recommend torque 5kg cm             | Tor              | kg cm            | 8          |

# MUR1020FCT

|               |            | UNIT |  |   | Typ  | Max  |
|---------------|------------|------|--|---|------|------|
| Forward diode | $V_{FM}$   | V    | $I_{FM}=5.0A @T_j=25$                                  | - | 0.90 | 1.0  |
|               |            |      | $I_{FM}=5.0A @T_j=150$                                 |   | 0.78 | 0.90 |
|               | $I_{RRM1}$ | uA   | $V_{RM}=V_{RRM}$<br>$T_j=25$                           | - | -    | 5    |
|               | $I_{RRM2}$ |      | $V_{RM}=V_{RRM}$<br>$T_j=150$                          | - | 25   | 50   |
|               | $T_{rr}$   | ns   | $I_F=0.5A I_{RM}=1A$<br>$I_{RR}=0.25A T_j=25$          | - | 25   | 35   |
|               |            |      | $T_j=25$   |   | 17.4 |      |
|               |            |      | $T_j=125$  |   | 29.4 |      |
|               | $I_{RRM}$  | A    | $T_j=25$ $I_F=5A$<br>$di/dt=-200A/us$<br>$V_{RM}=100V$ | - | 3.11 | -    |
|               |            |      | $T_j=125$  | - | 5 M  | -    |



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

