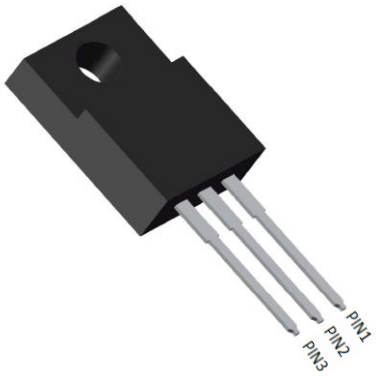
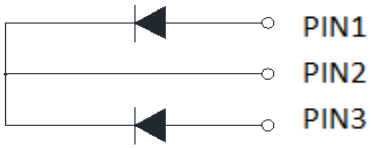
# Ultra-Fast Recovery Diodes 15A*2 FRED




## 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 ($T_j$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | MUR3060FCT |
|---|---|---|---|
| Device marking code | | | MUR3060FCT |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | 600 |
| Average Rectified Output Current @60Hz sine wave, R-load, $T_C$（FIG.1） | $I_O$ | A | 30 |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_j$=25℃ | $I_{FSM}$ | A | 150 |
| Current Squared Time @1ms≤t≤8.3ms Tj=25℃， | $I^2t$ | $A^2s$ | 93 |
| Storage Temperature | Tstg | ℃ | -55 ~ +175 |
| Junction Temperature | $T_j$ | ℃ | -55 ~ +175 |
| Typical Junction capacitance @4V,1MHz | Cj | pF | 98 |
| Mounting torque @recommend torque：5kg·cm | Tor | kg·cm | 8 |

## ■Electrical Characteristics（$T_j$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | | Min | Typ | Max |
|---|---|---|---|---|---|---|---|
| Instantaneous forward voltage drop per diode | $V_{FM}$ | V | $I_{FM}$=15.0A @ Tj=25℃ | | - | 1.45 | 1.6 |
| | | | $I_{FM}$=15.0A @ Tj=150℃ | | - | 1.25 | 1.4 |
| DC reverse current at rated DC blocking voltage per diode | $I_{RRM1}$ | uA | $V_{RM}$=$V_{RRM}$ Tj=25℃ | | - | - | 5.0 |
| | $I_{RRM2}$ | | $V_{RM}$=$V_{RRM}$ Tj=150℃ | | - | 30 | 200 |
| Reverse Recovery Time | $T_{RR}$ | ns | $I_F$=0.5A $I_{RM}$=1A $I_{RR}$=0.25A Tj=25℃ | | - | 26 | 35 |
| | | | Tj=25℃ | $I_F$=15A di/dt=--200A/us $V_{RM}$=200V | | 115 | |
| | | | Tj=125℃ | | | 200 | |
| Peak recovery current | $I_{RRM}$ | A | Tj=25℃ | | - | 5.0 | - |
| | | | Tj=125℃ | | - | 10.5 | - |
| Reverse recovery charge | Qrr | nC | Tj=25℃ | | - | 285 | - |
| | | | Tj=125℃ | | - | 1000 | - |

## ■Thermal Characteristics （$T_a$=25℃ Unless otherwise specified）

| PARAMETER | | SYMBOL | UNIT | MUR3060FCT |
|---|---|---|---|---|
| Thermal Resistance | Between junction and case | RθJ-C | ℃/W | 4.0 |
| | Between junction and Air | RθJ-A | ℃/W | 50 |

## ■ Characteristics(Typical)

FIG1:Io -Tc Curve

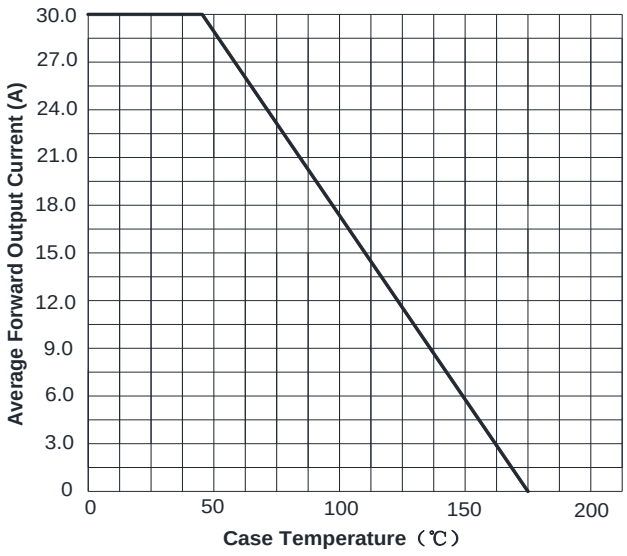



FIG2:Surge Forward Current Capability

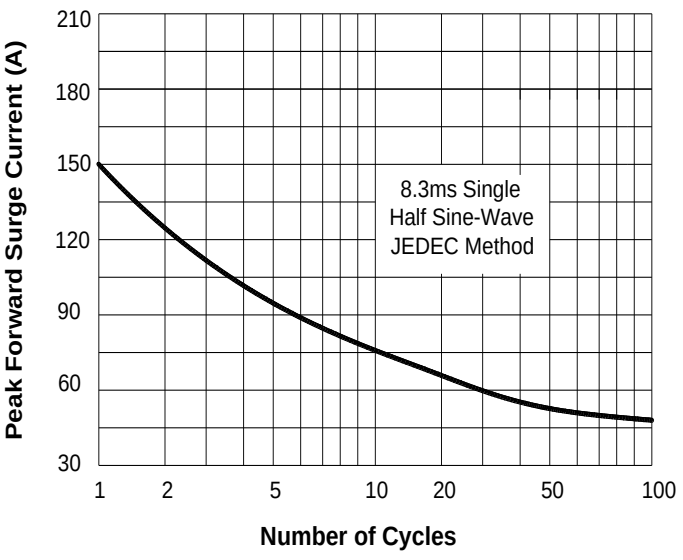


**FIG3: Forward Voltage**

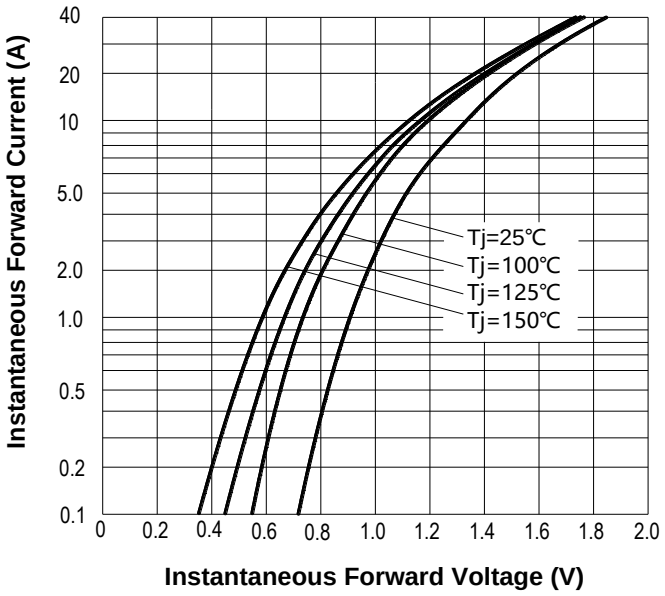



**FIG.4: Instantaneous Reverse Characteristics**

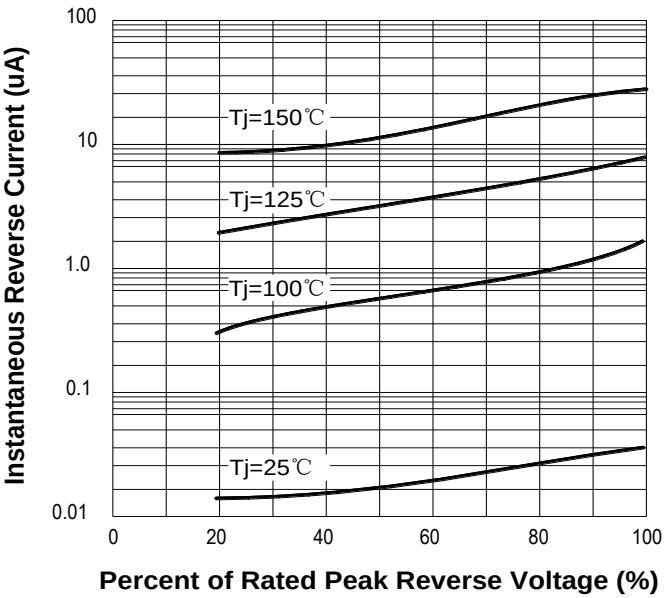
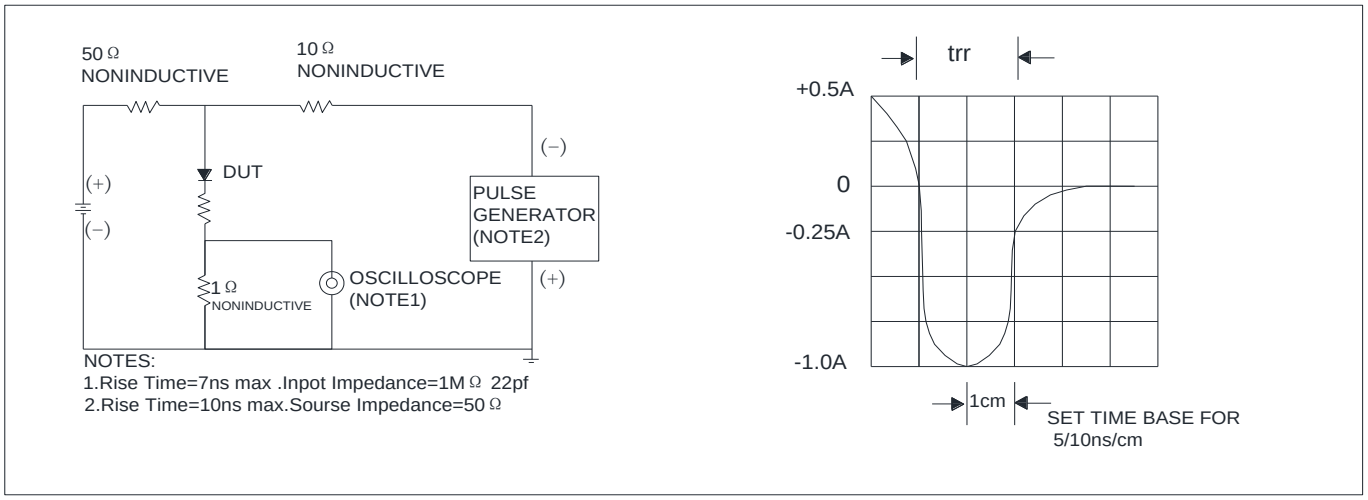
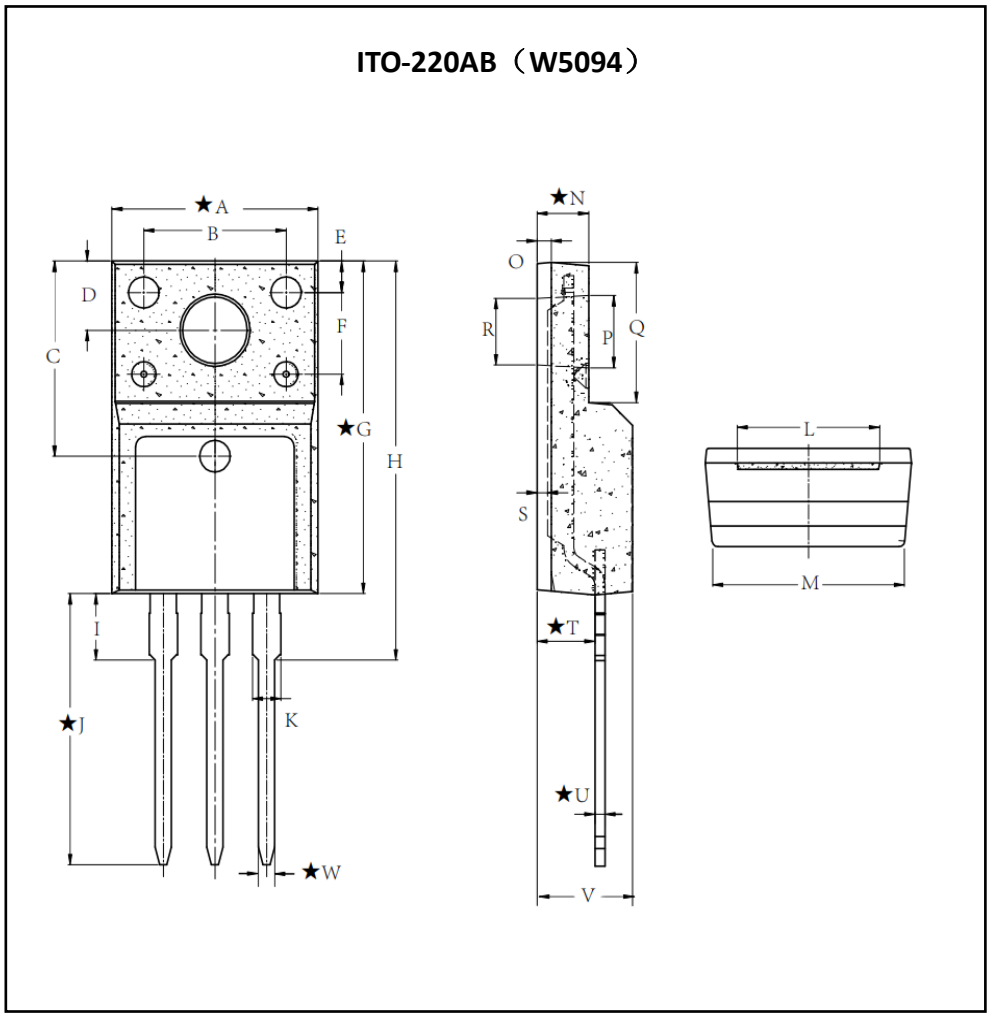



**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**



## ■Outline Dimensions




| ITO-220AB | | |
|---|---|---|
| Dim | Min | Max |
| A | 10.03 | 10.23 |
| B | 6.9 | 7.1 |
| C | 9.21 | 9.41 |
| D | 3.2 | 3.4 |
| E | 1.4 | 1.6 |
| F | 3.8 | 4.0 |
| G | 15.72 | 16.02 |
| H | TYP 19.05 | |
| I | TYP 3.18 | |
| J | 12.65 | 13.25 |
| K | 1.3 | 1.5 |
| L | 6.5 | 7.5 |
| M | 9.23 | 9.63 |
| N | 2.44 | 2.64 |
| O | TYP 0.7 | |
| P | 3.35 | 3.55 |
| Q | 6.58 | 6.78 |
| R | 3.08 | 3.28 |
| S | TYP 0.52 | |
| T | 2.75 | 2.95 |
| U | 0.4 | 0.6 |
| V | 4.5 | 4.9 |
| W | 0.71 | 0.91 |

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