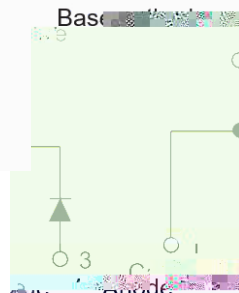
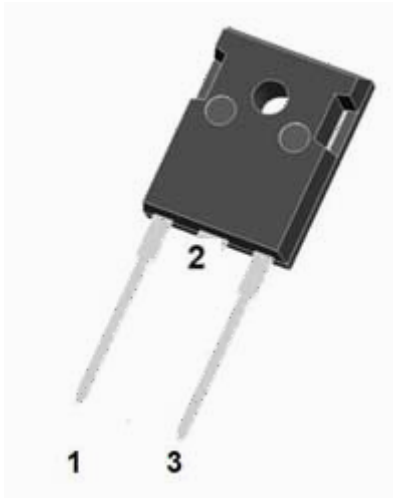


## Ultra-Fast Recovery Diodes 60A FRED



### Features

- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring 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-247AC  
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

|                                 |                     |                   |      |
|---------------------------------|---------------------|-------------------|------|
| Repetitive Peak Reverse Voltage | V <sub>RRM</sub> /V | I <sub>TS</sub> A | T °C |
|---------------------------------|---------------------|-------------------|------|

|                                                                                                   |        |                    |     |
|---------------------------------------------------------------------------------------------------|--------|--------------------|-----|
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25 °C, L=15mH | EAS mJ | Q <sub>ES</sub> μC | 900 |
|---------------------------------------------------------------------------------------------------|--------|--------------------|-----|

|                                       |                  |    |            |
|---------------------------------------|------------------|----|------------|
| 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 | 392        |



# MUR6060P

## ■Electrical Characteristics T<sub>j</sub>=25 Unless otherwise specified

| PARAMETER                                                 | SYMBOL            | UNIT | TEST CONDITIONS                                                                       | Min | Typ    | Max |
|-----------------------------------------------------------|-------------------|------|---------------------------------------------------------------------------------------|-----|--------|-----|
| Instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =60.0A<br>T <sub>j</sub> =25                                          | -   | 1.8    | 2.4 |
| DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | uA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =25                               | -   | -      | 5.0 |
|                                                           | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =125                              | -   | -      | 200 |
| Reverse Recovery Time                                     | T <sub>rr</sub>   | ns   | I <sub>F</sub> =0.5A I <sub>RM</sub> =1A<br>I <sub>RR</sub> =0.25A T <sub>j</sub> =25 | -   | 50     | 75  |
|                                                           |                   |      | T <sub>j</sub> =25                                                                    | -   | 69.78  | -   |
|                                                           |                   |      | T <sub>j</sub> =125                                                                   | -   | 101.20 | -   |
| Peak recovery current                                     | I <sub>RRM</sub>  | A    | T <sub>j</sub> =25                                                                    | -   | 4.540  | -   |
|                                                           |                   |      | T <sub>j</sub> =125                                                                   | -   | 10.98  | -   |
| Reverse recovery charge                                   | Q <sub>rr</sub>   | nC   | T <sub>j</sub> =25                                                                    | -   | 158.44 | -   |
|                                                           |                   |      | T <sub>j</sub> =125                                                                   | -   | 555.70 | -   |

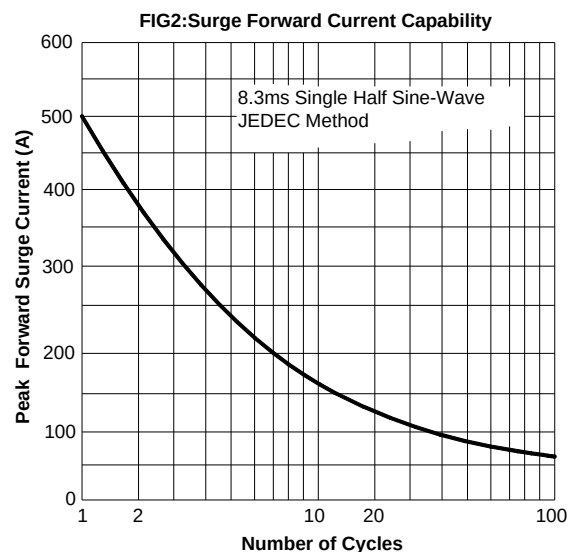
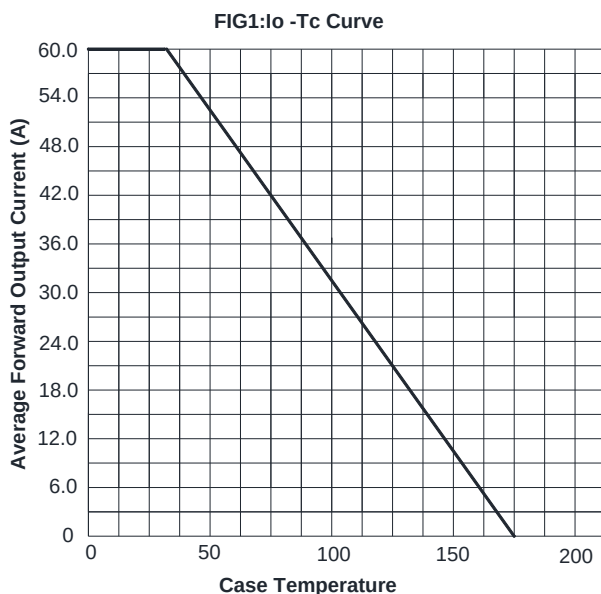
## ■Thermal Characteristics T<sub>j</sub>=25 Unless otherwise specified

| PARAMETER          |                           | SYMBOL            | UNIT | MUR6060P |
|--------------------|---------------------------|-------------------|------|----------|
| Thermal Resistance | Between junction and case | R <sub>θJ-C</sub> | W    | 1.0      |

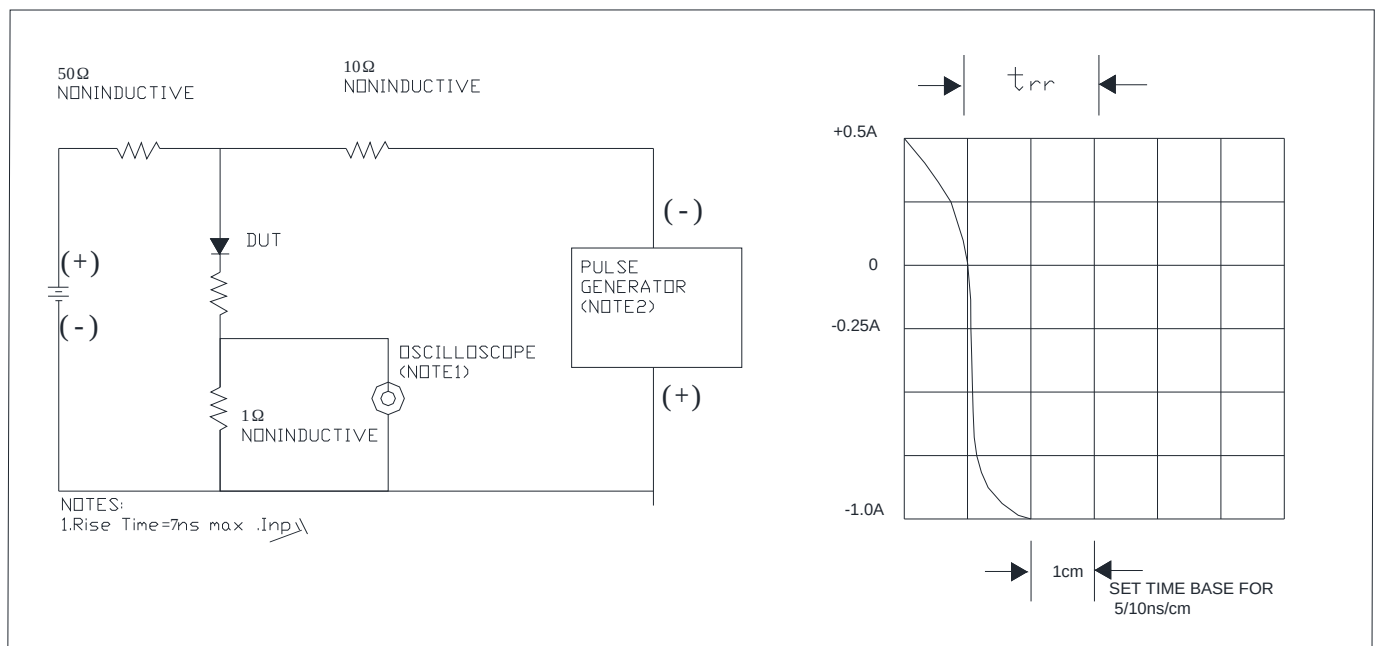
## ■Ordering Information (Example)

| PREFERRED P/N | UNIT WEIGHT(g)  | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| MUR6060P      | Approximate 6.0 | 30                   | 360                     | 1800                       | Tube          |

## ■Characteristics (Typical)



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







## Disclaimer

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