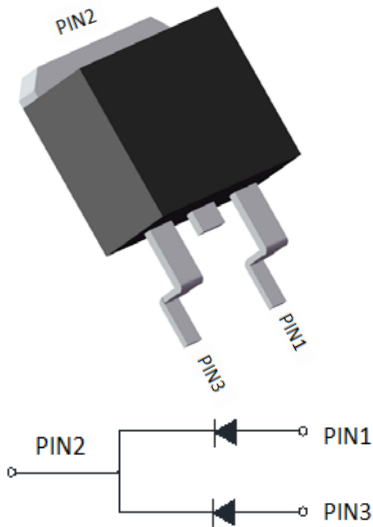


## Ultra-Fast Recovery Diodes 8A\*2 FRED Pt



### 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-263  
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>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                                                   | SYMBOL           | UNIT             | MURB1660CT |
|---------------------------------------------------------------------------------------------|------------------|------------------|------------|
| Device marking code                                                                         |                  |                  | MURB1660CT |
| Repetitive Peak Reverse Voltage                                                             | VRRM             | V                | 600        |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, T <sub>c</sub> (FIG.1)         | I <sub>O</sub>   | A                | 16         |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C | I <sub>FSM</sub> | A                | 100        |
| Current Squared Time @1ms≤t≤8.3ms<br>T <sub>j</sub> =25°C,                                  | I <sup>2</sup> t | A <sup>2</sup> s | 41         |
| Storage Temperature                                                                         | T <sub>stg</sub> | °C               | -55 ~ +150 |
| Junction Temperature                                                                        | T <sub>j</sub>   | °C               | -55 ~ +150 |
| Junction capacitance @4V,1MHz                                                               | C <sub>j</sub>   | pF               | 40         |



# MURB1660CT

## ■Electrical Characteristics

| PARAMETER                                                 | SYMBOL     | UNIT | TEST CONDITIONS                                               | Min | Typ    | Max |
|-----------------------------------------------------------|------------|------|---------------------------------------------------------------|-----|--------|-----|
| Instantaneous forward voltage drop per diode              | $V_{FM}$   | V    | IFM=8.0A @Tj=25°C                                             | -   | 1.45   | 1.6 |
|                                                           |            |      | IFM=8.0A @Tj=150°C                                            | -   | 1.15   | 1.3 |
| DC reverse current at rated DC blocking voltage per diode | $I_{RRM1}$ | uA   | VRM=VRRM<br>Tj=25°C                                           | -   | -      | 10  |
|                                                           | $I_{RRM2}$ |      | VRM=VRRM<br>Tj=150°C                                          | -   | 40     | 200 |
| Reverse Recovery Time                                     | Trr        | ns   | IF=0.5A I <sub>RM</sub> =1A<br>I <sub>RR</sub> =0.25A Tj=25°C | -   | 25     | 35  |
| Peak recovery current                                     | $I_{RRM}$  | A    | Tj=25°C                                                       | -   | 3.45   | -   |
|                                                           |            |      | Tj=125°C                                                      | -   | 6.25   | -   |
| Reverse recovery charge                                   | Qrr        | nC   | Tj=25°C                                                       | -   | 106.58 | -   |
|                                                           |            |      | Tj=125°C                                                      | -   | 283.26 | -   |

## ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER          |                           | SYMBOL            | UNIT | MURB1660CT |
|--------------------|---------------------------|-------------------|------|------------|
| Thermal Resistance | Between junction and case | R <sub>θJ-C</sub> | °CW  | 2.0        |
| Thermal Resistance | Between junction and Air  | R <sub>θJ-A</sub> | °CW  | 50         |

## ■Ordering Information (Example)

| PREFERRED P/N | UNIT WEIGHT(g)   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MURB1660CT    | Approximate 1.43 | 50                   | 2000                    | 8000                       | Tube          |
| MURB1660CT    | Approximate 1.43 | 1000                 | 2000                    | 10000                      | Reel          |

## ■Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

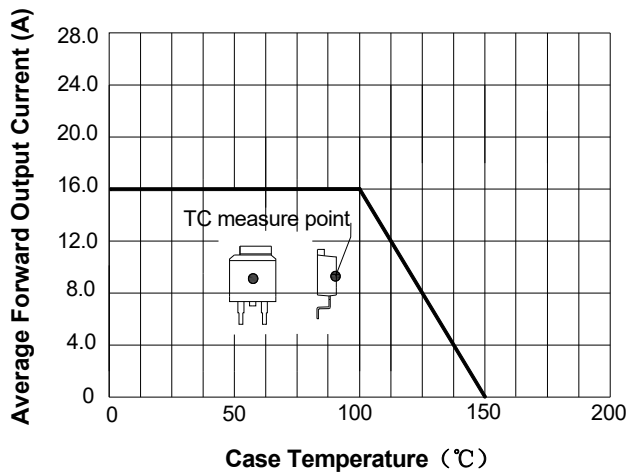
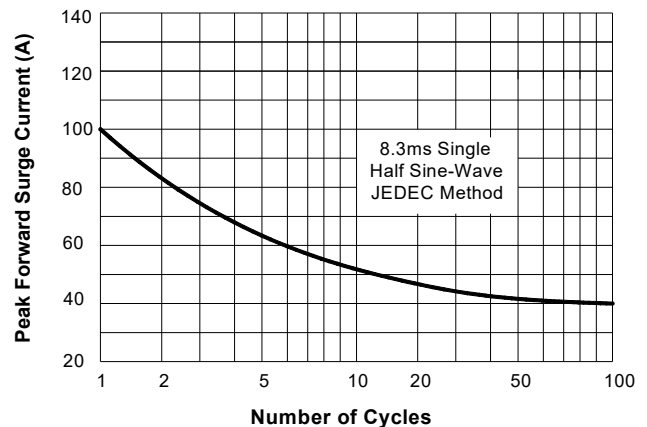
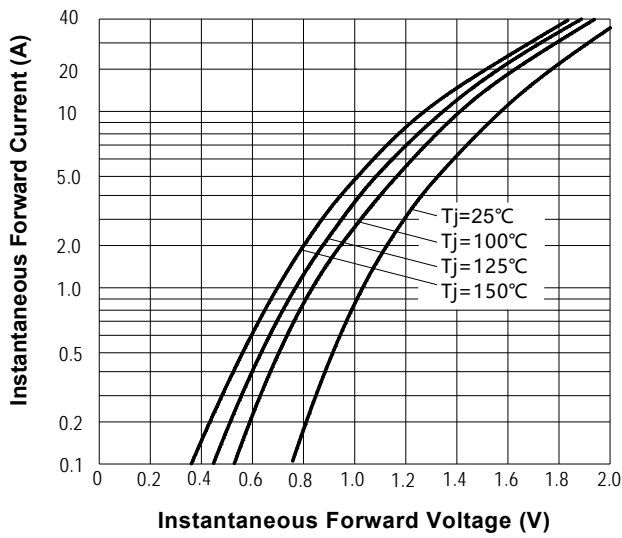


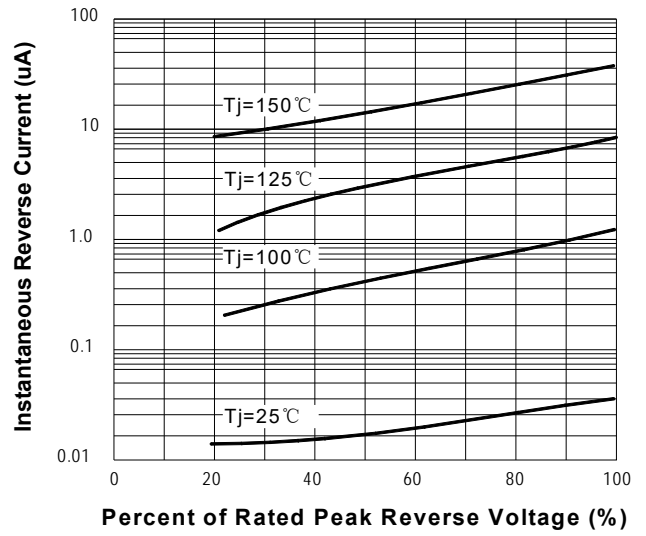
FIG2: Surge Forward Current Capability



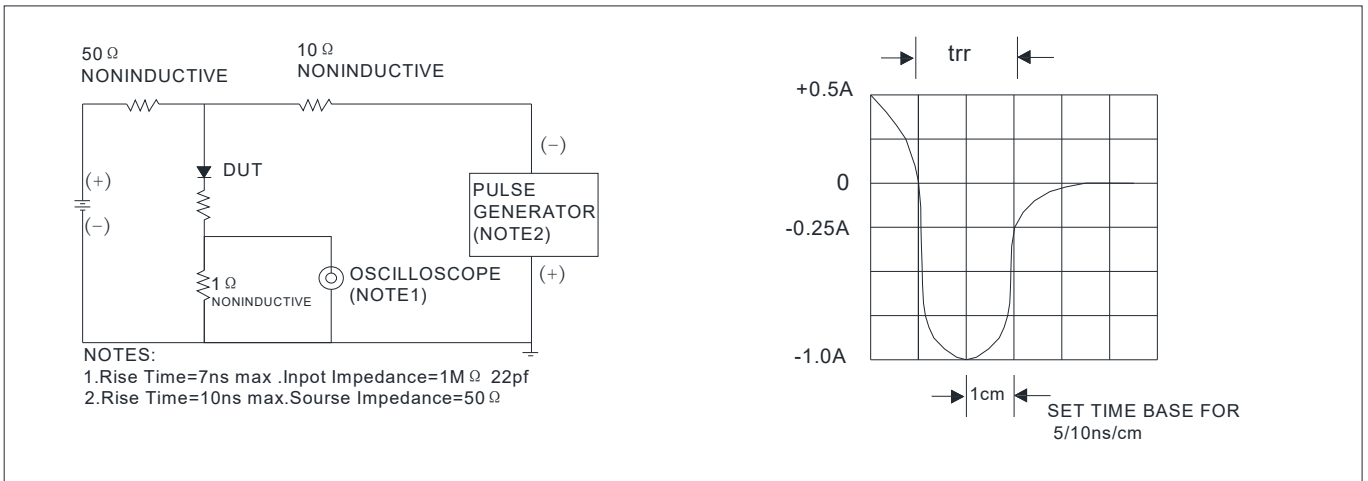
**FIG3: Forward Voltage**



**FIG.4: Instantaneous Reverse Characteristics**



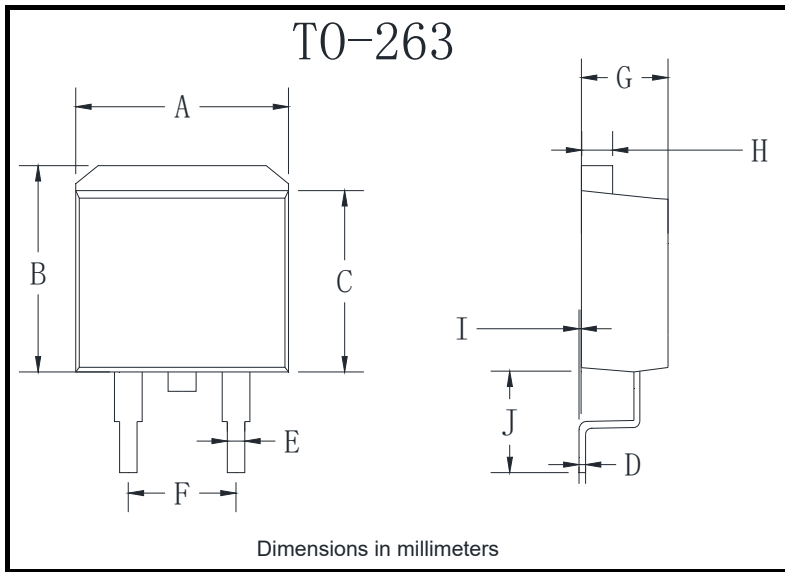
**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**





# MURB1660CT

## ■Outline Dimensions



| TO-263 |      |       |
|--------|------|-------|
| Dim    | Min  | Max   |
| A      | 9.85 | 10.45 |
| B      | 9.7  | 10.5  |
| C      | 8.4  | 9.0   |
| D      | 0.28 | 0.64  |
| E      | 0.68 | 0.94  |
| F      | 4.86 | 5.26  |
| G      | 4.28 | 4.88  |
| H      | 1.14 | 1.4   |
| I      | 0    | 0.2   |
| J      | 4.90 | 5.40  |



## MURB1660CT

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