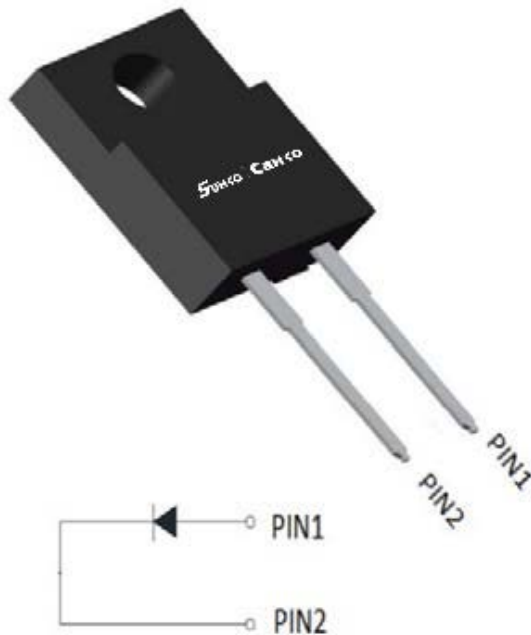


## Ultra-Fast Recovery Rectifier Diodes



### 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:** ITO-220AC  
Molding compound meets UL 94 V-0 flammability rating, -
- **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              | MUR810F    | MUR815F | MUR820F | MUR840F | MUR860F |
|---------------------------------------------------------------------------------------------|------------------|-------------------|------------|---------|---------|---------|---------|
| Device marking code                                                                         |                  |                   | MUR810F    | MUR815F | MUR820F | MUR840F | MUR860F |
| Repetitive Peak Reverse Voltage                                                             | VRRM             | V                 | 100        | 150     | 200     | 400     | 600     |
| Average Rectified Output Current<br>@60Hz half sine-wave, R-load, T <sub>c</sub> (FIG.1)    | I <sub>o</sub>   | A                 | 8          |         |         |         |         |
| 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 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 |         |         |         |         |

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

| PARAMETER                                                         | SYMBOL          | UNIT | TEST CONDITIONS                                                    | MUR810F | MUR815F | MUR820F | MUR840F | MUR860F |
|-------------------------------------------------------------------|-----------------|------|--------------------------------------------------------------------|---------|---------|---------|---------|---------|
| Maximum instantaneous forward voltage drop per diode              | VFM             | V    | I <sub>FM</sub> =8.0A                                              | 0.975   |         |         | 1.3     | 1.5     |
| Maximum DC reverse current at rated DC blocking voltage per diode | IRRM1           | uA   | V <sub>RM</sub> =VRRM<br>T <sub>a</sub> =25°C                      | 10      |         |         |         |         |
|                                                                   | IRRM2           |      | V <sub>RM</sub> =VRRM<br>T <sub>a</sub> =125°C                     | 500     |         |         |         |         |
| 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 | 50      |         |         |         |         |

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

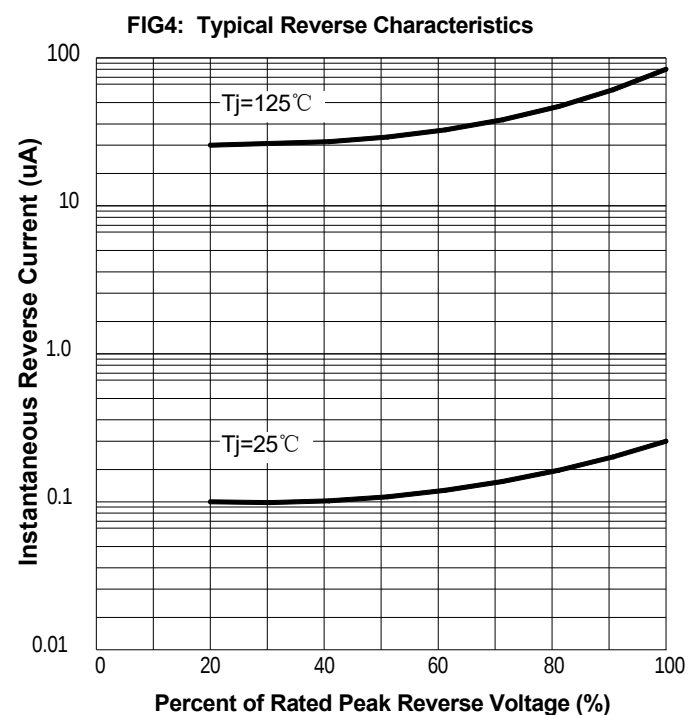
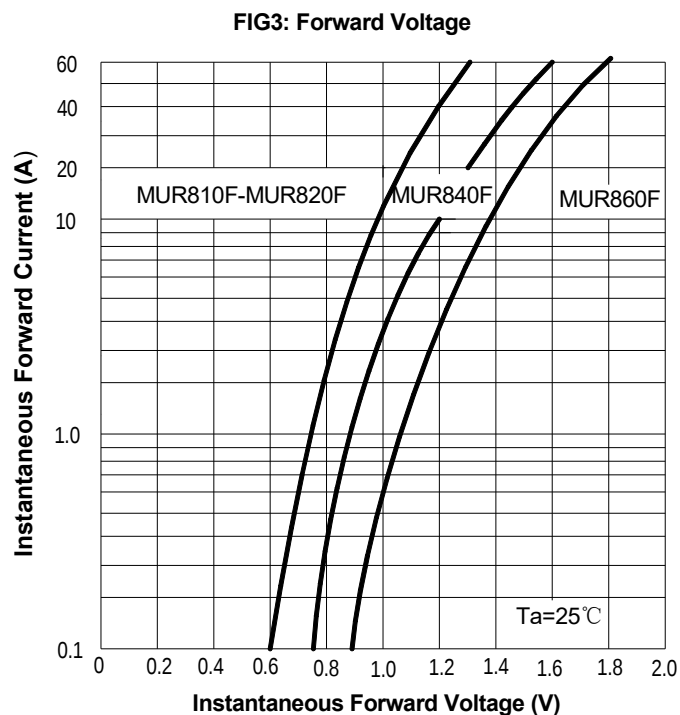
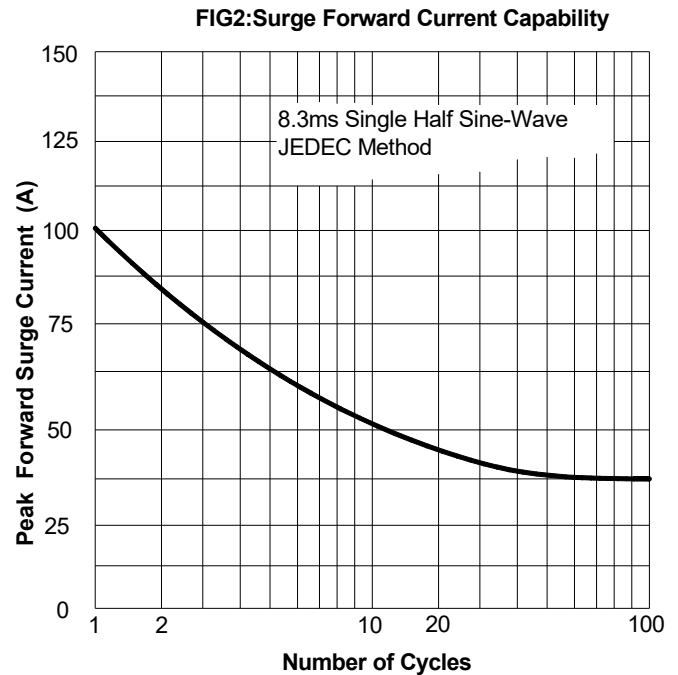
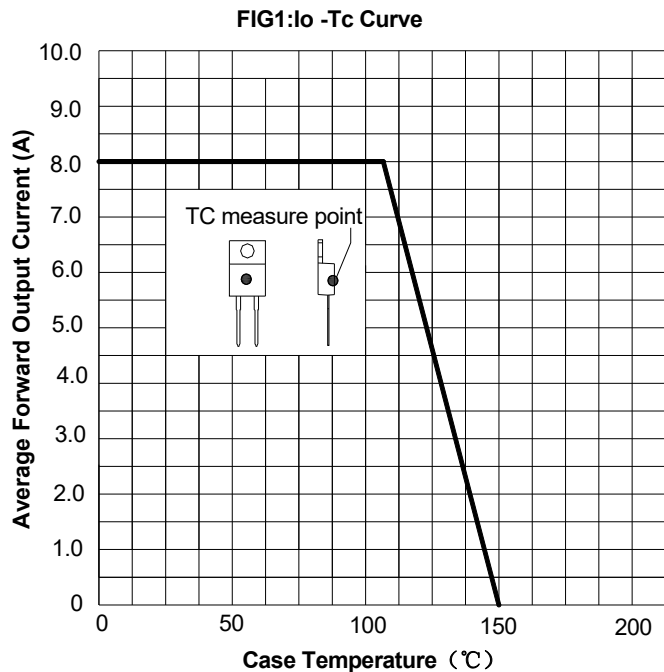
| PARAMETER          | SYMBOL                    | UNIT              | MUR810F | MUR815F | MUR820F | MUR840F | MUR860F |
|--------------------|---------------------------|-------------------|---------|---------|---------|---------|---------|
| Thermal Resistance | Between junction and case | R <sub>θJ-C</sub> | °C/W    | 2.5     |         |         |         |

# MUR810F THRU MUR860F-B1-0000S

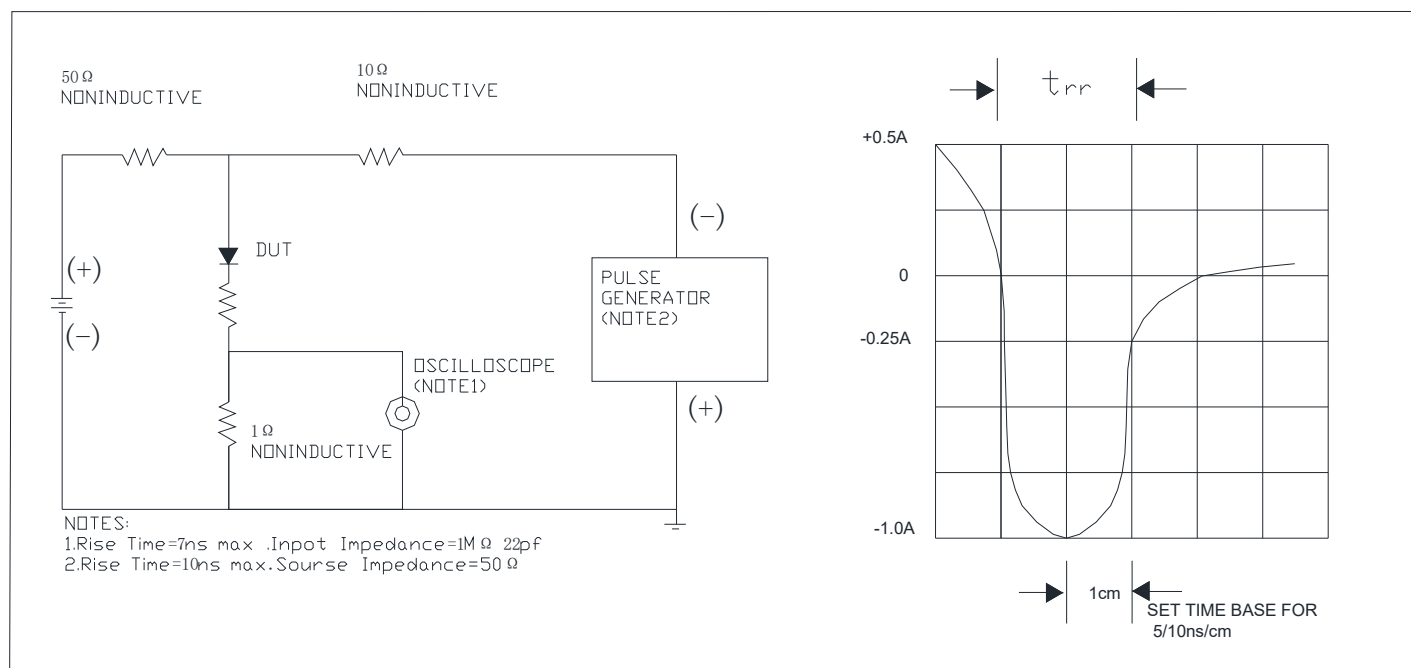
## ■Ordering Information (Example)

| PREFERRED P/N |         |         |         |         | UNIT WEIGHT(g)   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|---------|---------|---------|---------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MUR810F       | MUR815F | MUR820F | MUR840F | MUR860F | Approximate 1.37 | 50                   | 1000                    | 5000                       | Tube          |

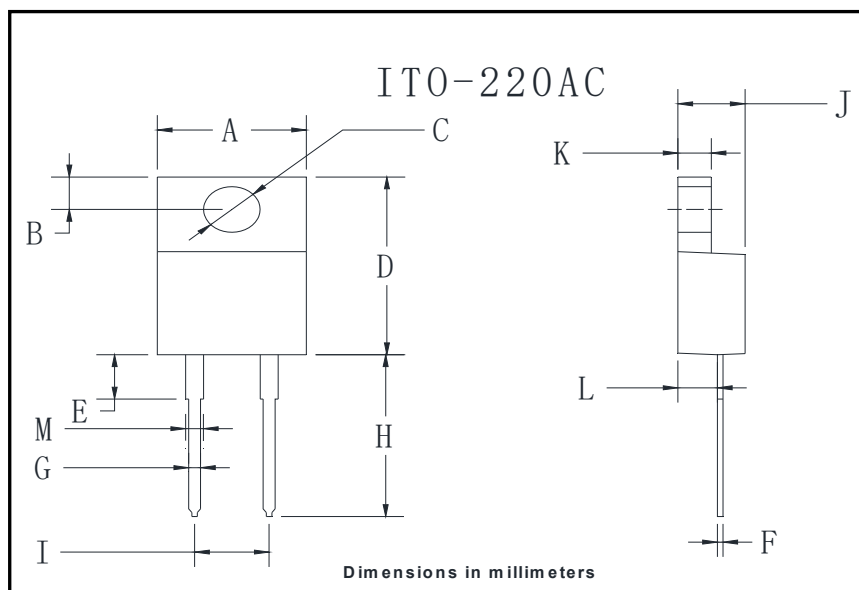
## ■Characteristics (Typical)



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



## ■ Outline Dimensions



| ITO-220AC |      |      |
|-----------|------|------|
| Dim       | Min  | Max  |
| A         | 9.7  | 10.7 |
| B         | 2.15 | 3.25 |
| C         | 2.6  | 3.8  |
| D         | 14.4 | 15.9 |
| E         | 3.1  | 4.5  |
| F         | 0.4  | 0.8  |
| G         | 0.4  | 0.9  |
| H         | 12.7 | 14.2 |
| I         | 3.6  | 5.9  |
| J         | 3.9  | 5.1  |
| K         | 2.1  | 3.56 |
| L         | 2.1  | 3.2  |
| M         | 1.0  | 1.8  |

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