

### 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

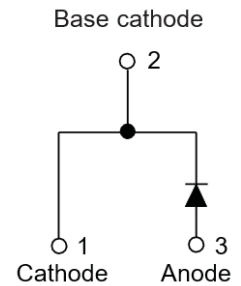
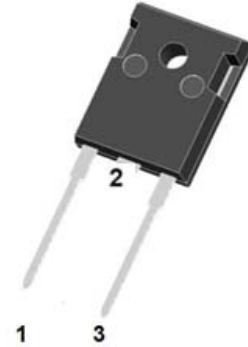
Typical applications are in switching power supplies, converter freewheeling diodes, and reverse battery protection.

### Mechanical Data

- **Package:** TO-247-2L  
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              | MUR6060P   |
|------------------------------------------------------------------------------------------|------------------|-------------------|------------|
| Device marking code                                                                      |                  |                   | MUR6060P   |
| Repetitive Peak Reverse Voltage                                                          | V <sub>RRM</sub> | V                 | 600        |
| Average Rectified Output Current @60Hz half sine-wave, R-load, T <sub>q</sub> (FIG.1)    | I <sub>o</sub>   | A                 | 60         |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                 | 500        |
| Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C                                   | I <sup>2</sup> t | A <sup>2</sup> s. | 1037       |
| Single Pulse Avalanche Energy @ T <sub>p</sub> =40uS, T <sub>j</sub> =25°C,L=15mH        | EAS              | mJ                | 900        |
| Storage Temperature                                                                      | T <sub>stg</sub> | °C                | -55 ~ +175 |
| Junction Temperature                                                                     | T <sub>j</sub>   | °C                | -55 ~ +175 |
| Typical Junction capacitance @4V,1MHz                                                    | C <sub>j</sub>   | pF                | 392        |



### ■Electrical Characteristics (T<sub>j</sub>=25°C 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°C                                          | -   | 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°C                               | -   | -      | 5.0 |
|                                                           | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =125°C                              | -   | -      | 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°C | -   | 50     | 75  |
|                                                           |                   |      | T <sub>j</sub> =25°C                                                                    | -   | 69.78  | -   |
|                                                           |                   |      | T <sub>j</sub> =125°C                                                                   | -   | 101.20 | -   |
| Peak recovery current                                     | I <sub>RRM</sub>  | A    | T <sub>j</sub> =25°C                                                                    | -   | 4.540  | -   |
|                                                           |                   |      | T <sub>j</sub> =125°C                                                                   | -   | 10.98  | -   |
| Reverse recovery charge                                   | Q <sub>rr</sub>   | nC   | T <sub>j</sub> =25°C                                                                    | -   | 158.44 | -   |
|                                                           |                   |      | T <sub>j</sub> =125°C                                                                   | -   | 555.70 | -   |

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

| PARAMETER                 | SYMBOL            | UNIT | MUR6060P |
|---------------------------|-------------------|------|----------|
| Thermal Resistance        |                   |      |          |
| Between junction and case | R <sub>θJ-C</sub> | °CW  | 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)

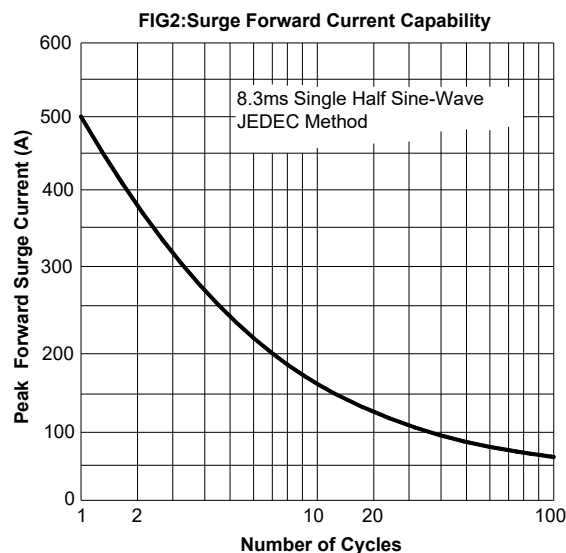
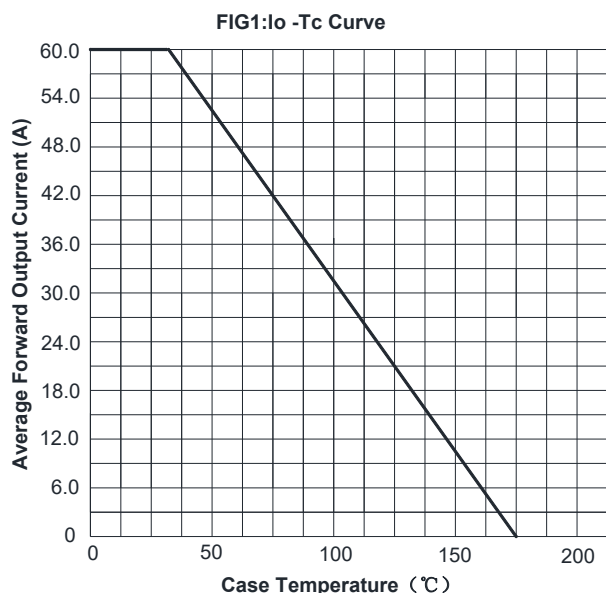


FIG3: Forward Voltage

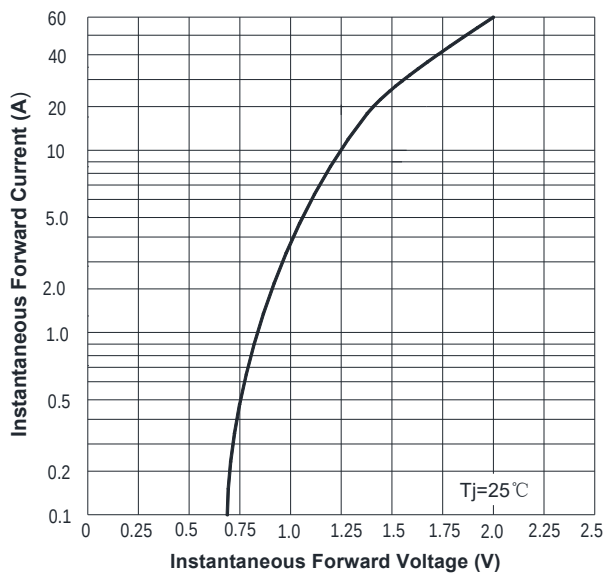


FIG4: Typical Reverse Characteristics

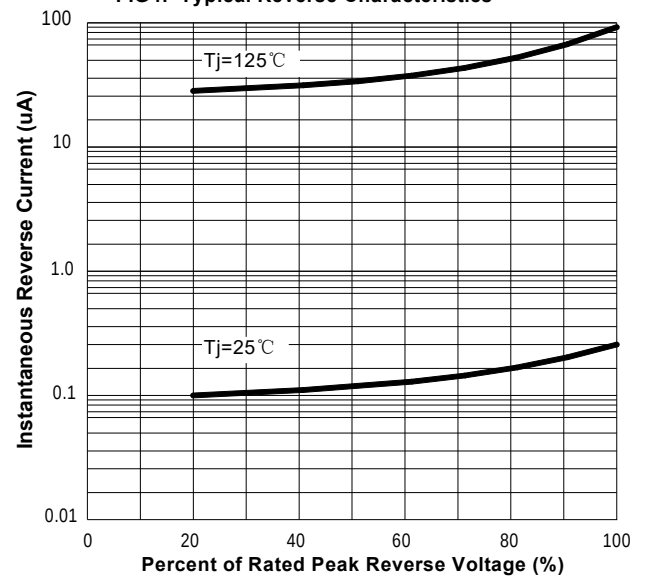
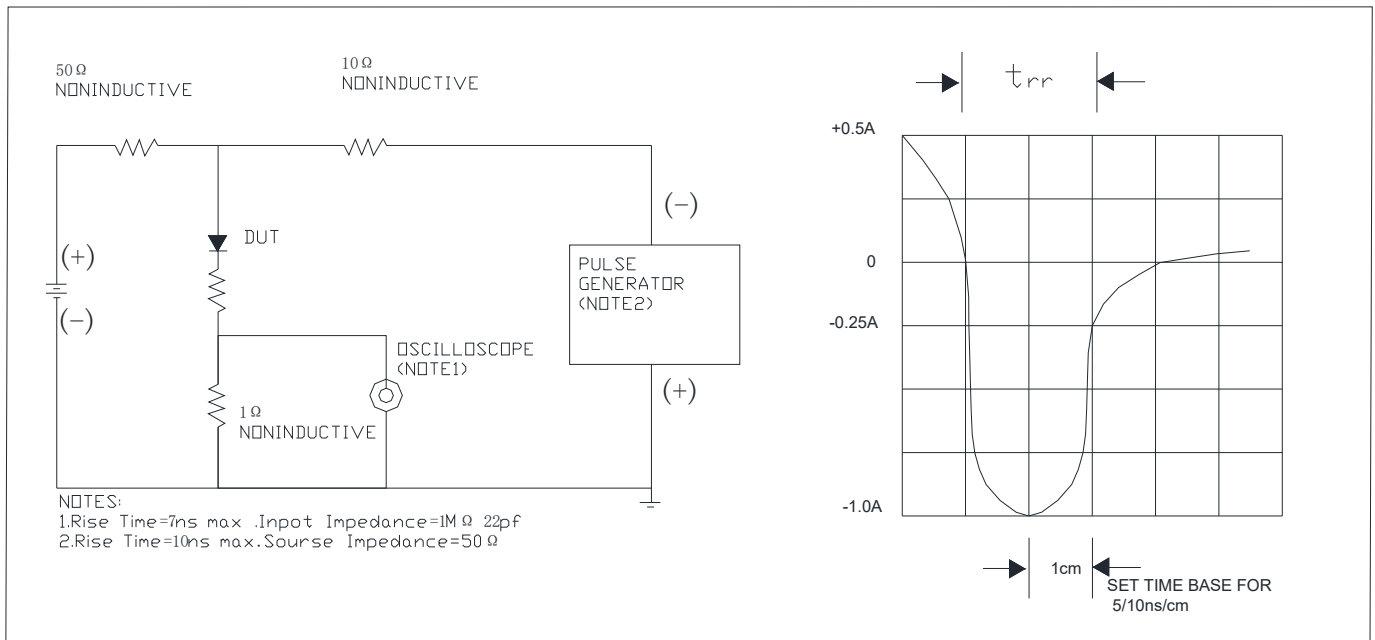
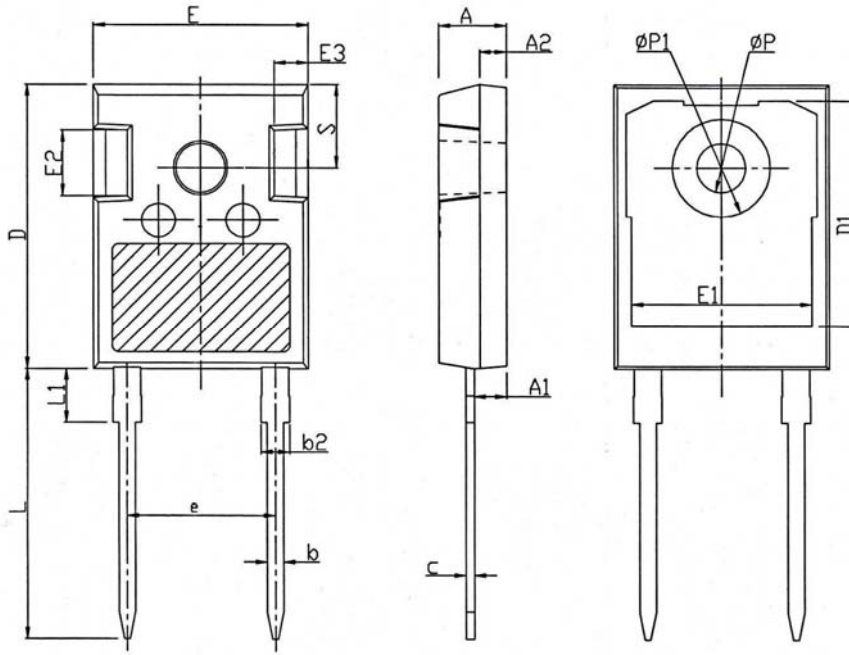


FIG.5 Diagram of circuit and Testing wave form of reverse recovery time



### ■Outline Dimensions



| TO-247-2L |          |       |
|-----------|----------|-------|
| Dim       | Min      | Max   |
| A         | 4.80     | 5.20  |
| A1        | 2.21     | 2.61  |
| A2        | 1.85     | 2.15  |
| b         | 1.11     | 1.36  |
| b2        | 1.91     | 2.21  |
| c         | 0.51     | 0.75  |
| D         | 20.70    | 21.30 |
| D1        | 16.25    | 16.85 |
| E         | 15.50    | 16.10 |
| E1        | 13.00    | 13.60 |
| E2        | 4.80     | 5.20  |
| E3        | 2.30     | 2.70  |
| e         | 10.88BSC |       |
| L         | 19.62    | 20.22 |
| L1        | -        | 4.30  |
| $\phi P$  | 3.40     | 3.80  |
| $\phi P1$ | -        | 7.30  |
| S         | 6.15BSC  |       |

| Packge | Packing    | Box Size<br>L×W×H(mm) | Quatity(pcs/box) | Carton Size<br>L×W×H(mm) | Quatity(pcs/carton) |
|--------|------------|-----------------------|------------------|--------------------------|---------------------|
| TO-247 | 30pcs/Tube | 570×155×50            | 450              | 580×340×125              | 1800                |