

## Super Fast Recovery Rectifier Diode

### ■ Features

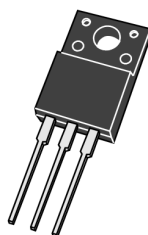
- High frequency operation
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s

### ■ Typical Applications

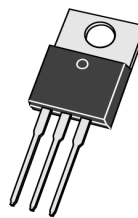
- Typical applications are in switching power supplies

### ■ Mechanical Data

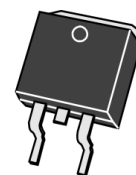
- **Package:** ITO-220AB TO-220AB TO-252-2L  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads
- **Polarity:** As marked



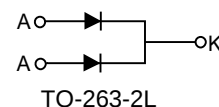
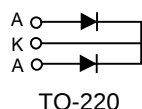
ITO-220AB  
MUR3010FCT-M2  
MUR3015FCT-M2  
MUR3020FCT-M2  
MUR3040FCT-M2  
MUR3060FCT-M2



TO-220AB  
MUR3010CT-M2  
MUR3015CT-M2  
MUR3020CT-M2  
MUR3040CT-M2  
MUR3060CT-M2



TO-263-2L  
MUR3010D-M2  
MUR3015D-M2  
MUR3020D-M2  
MUR3040D-M2  
MUR3060D-M2



### ■ Limiting Values(Absolute Maximum Rating)

| Item                                 | Symbol                      | Unit             | Conditions                                            | MUR-30A    |      |      |      |      |
|--------------------------------------|-----------------------------|------------------|-------------------------------------------------------|------------|------|------|------|------|
|                                      |                             |                  |                                                       | 3010       | 3015 | 3020 | 3040 | 3060 |
| Repetitive Peak Reverse Voltage      | V <sub>RRM</sub>            | V                |                                                       | 100        | 150  | 200  | 400  | 600  |
| Average Rectified Output Current     | I <sub>O</sub>              | A                | 60Hz sine wave, R- load, T <sub>a</sub> =25°C         | 30         |      |      |      |      |
| Surge(Non-repetitive)Forward Current | I <sub>FSM</sub>            | A                | 60Hz sine wave, 1 cycle, T <sub>a</sub> =25°C         | 150        |      |      |      |      |
| Current Squared Time                 | I <sub>t</sub> <sup>2</sup> | A <sup>2</sup> s | 1ms≤t<8.3ms T <sub>j</sub> =25°C, Rating of per diode | 93         |      |      |      |      |
| Storage Temperature                  | T <sub>stg</sub>            | °C               |                                                       | -55 ~ +150 |      |      |      |      |
| Junction Temperature                 | T <sub>j</sub>              | °C               |                                                       | -55 ~ +155 |      |      |      |      |

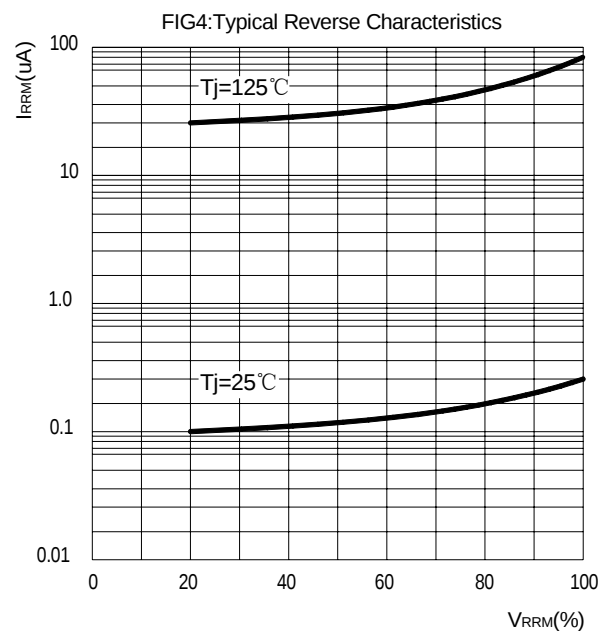
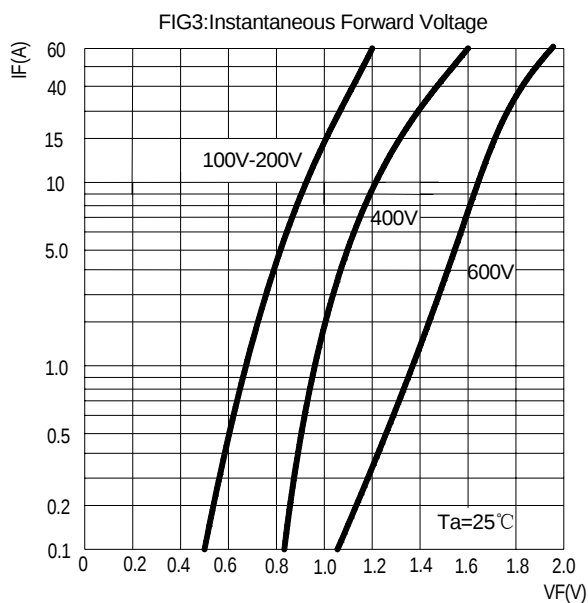
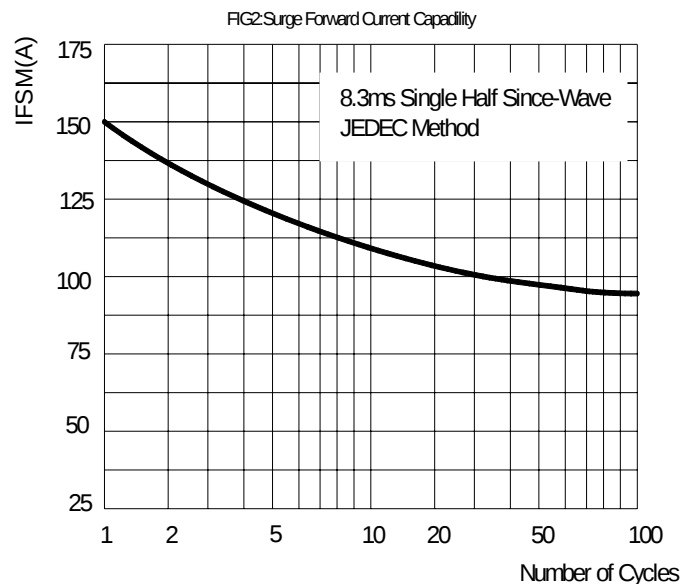
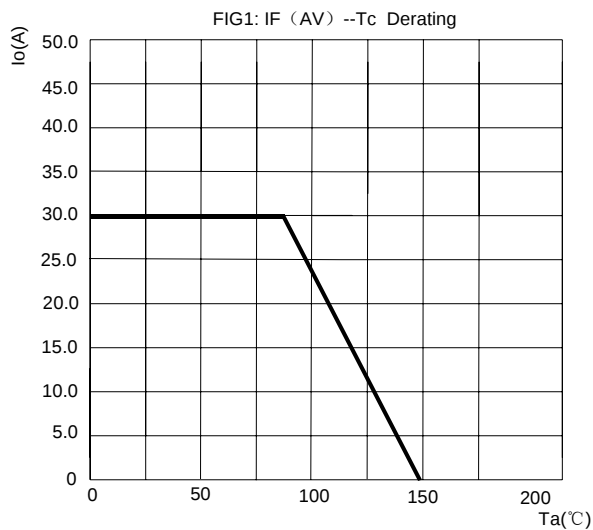
### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Item                  | Symbol            | Unit | Test Condition                                                     | MUR-30A |      |      |      |      |
|-----------------------|-------------------|------|--------------------------------------------------------------------|---------|------|------|------|------|
|                       |                   |      |                                                                    | 3010    | 3015 | 3020 | 3040 | 3060 |
| Peak Forward Voltage  | V <sub>FM</sub>   | V    | I <sub>FM</sub> =15.0A                                             | 0.95    |      |      | 1.30 | 1.7  |
| Peak Reverse Current  | I <sub>RRM1</sub> | μA   | V <sub>RM</sub> =V <sub>RRM</sub>                                  | 10      |      |      |      |      |
|                       | I <sub>RRM2</sub> |      |                                                                    | 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 | 35      |      |      | 50   |      |

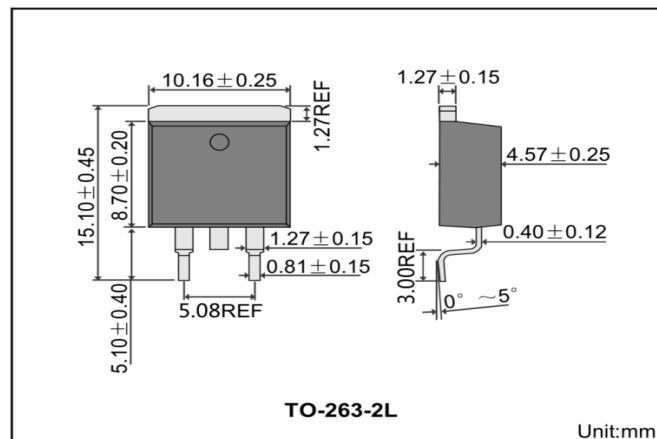
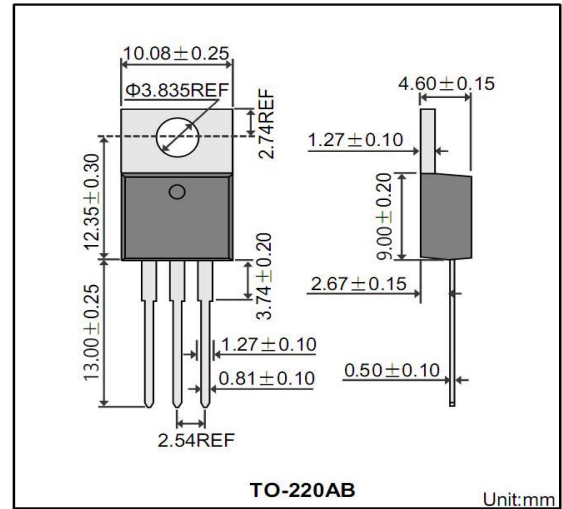
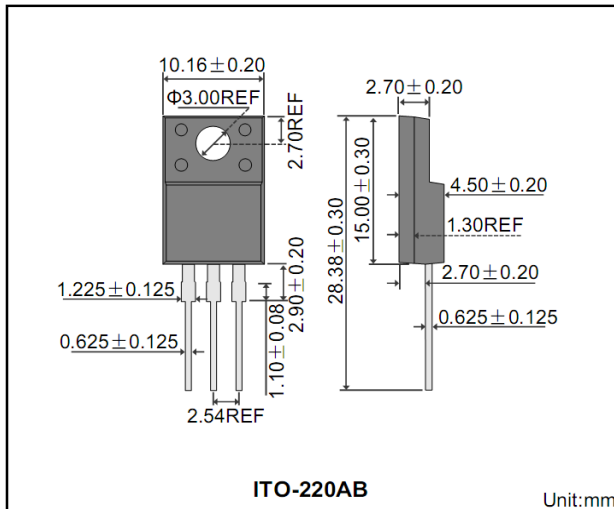
### Thermal Characteristics

| Parameter                                                                  | Symbol             | TO-220AB    | ITO-220AB | TO-263-2L | TO-252-2L | Units |
|----------------------------------------------------------------------------|--------------------|-------------|-----------|-----------|-----------|-------|
| Typical thermal resistance per leg                                         | R <sub>θJC</sub> * | 2           | 4         | 3         | 6         | °C /W |
| Operating junction temperature                                             | T <sub>J</sub>     | 150         |           |           |           | °C    |
| Storage temperature range                                                  | T <sub>STG</sub>   | -55 to +150 |           |           |           | °C    |
| * Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink). |                    |             |           |           |           |       |

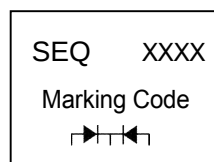
### Characteristics(Typical)



### Package Outline Dimensions



### Marking Information



“Marking Code”= The Following  
“XXXX”= Date Code Marking

| Package   | Pb-Free       |               | Green / Halogen Free |               |
|-----------|---------------|---------------|----------------------|---------------|
|           | Marking Code  | Part Number   | Marking Code         | Part Number   |
| ITO-220AB | MUR3060FCT-M2 | MUR3060FCT-M2 | MUR3060FCT-M2        | MUR3060FCT-M2 |

### Packing Information

| Packaging | Package   | Part Number | Quantity    | Size         |
|-----------|-----------|-------------|-------------|--------------|
| Tube      | TO-220AB  | Inner Box   | 1000 pieces | 558*150*40mm |
|           | ITO-220AB | Inner Box   | 1000 pieces | 558*150*40mm |
| Reel      | TO-263-2L | Inner Box   | 800 pieces  | 345*345*35mm |