



# MURJ60S120

60.0 AMP Ultrafast Recovery Rectifier

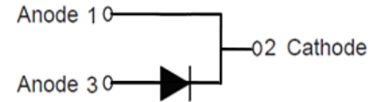
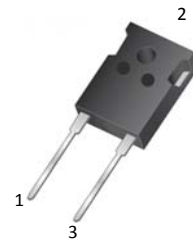
## 1. Features

- Adopt FRED chip.
- High frequency operation.
- High current capability.
- High reliability.
- Ultrafast recovery time,high voltage.
- RoHS Compliant.

## 2. Mechanical Data

- Case:Molded Plastic,TO247-2L .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking:marked on body.
- Mounting Position : Any.

TO247-2L



## 3. Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

| PARAMETER                                                                                                                  | SYMBOL          | MURJ60S120 | UNIT          |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|------------|---------------|
| Maximum Recurrent Peak Reverse Voltage                                                                                     | $V_{RRM}$       | 1200       | V             |
| Maximum RMS Voltage                                                                                                        | $V_{RMS}$       | 840        | V             |
| Maximum DC Blocking Voltage                                                                                                | $V_{DC}$        | 1200       | V             |
| Average Rectified Output Current @ $T_c=110^{\circ}C$                                                                      | $I_{F(AV)}$     | 60.0       | A             |
| Peak Forward Surge Current 8.3ms<br>Single half sine-wave superimposed @ $T_j=25^{\circ}C$<br>on rated load (JEDEC Method) | $I_{FSM}$       | 550        | A             |
| $I^2t$ Rating for Fusing ( $t < 8.3ms$ )                                                                                   | $I^2t$          | 1255.38    | $A^2s$        |
| Typical Thermal Resistance                                                                                                 | $R_{\theta JC}$ | 0.40       | $^{\circ}C/W$ |
| Operating Temperature and Storage Temperature Rang                                                                         | $T_j, T_{STG}$  | -55 to+175 | $^{\circ}C$   |

### Electrical Characteristics.

| PARAMETER                |                                                           | SYMBOL    | Min. | Typ.   | Max.  | UNIT |
|--------------------------|-----------------------------------------------------------|-----------|------|--------|-------|------|
| Forward Voltage          | $I_F=60A, T_j=25^{\circ}C$                                | $V_{FM}$  | -    | 2.80   | 3.20  | V    |
|                          | $I_F=60A, T_j=125^{\circ}C$                               |           | -    | 2.60   | -     |      |
| Reverse current          | $V_R=1200V, T_j=25^{\circ}C$                              | $I_R$     | -    | -      | 5.0   | uA   |
|                          | $V_R=1200V, T_j=125^{\circ}C$                             |           | -    | -      | 200.0 |      |
| Reverse Recovery Time    | $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A, T_j=25^{\circ}C$       | $T_{RR}$  | -    | -      | 85.0  | ns   |
|                          | $I_F=1A, V_R=30V, dI_F/dt=200A/\mu s, T_j=25^{\circ}C$    |           | -    | 34.0   | -     |      |
|                          | $I_F=50A, V_R=400V, dI_F/dt=200A/\mu s, T_j=25^{\circ}C$  |           | -    | 110.0  | -     |      |
|                          | $I_F=50A, V_R=400V, dI_F/dt=200A/\mu s, T_j=125^{\circ}C$ |           | -    | 255.0  | -     |      |
| Reverse recovery current | $I_F=50A, V_R=400V, dI_F/dt=200A/\mu s, T_j=25^{\circ}C$  | $I_{RRM}$ | -    | 6.4    | -     | A    |
|                          | $I_F=50A, V_R=400V, dI_F/dt=200A/\mu s, T_j=125^{\circ}C$ |           | -    | 17.0   | -     |      |
| Reverse recovery charge  | $I_F=50A, V_R=400V, dI_F/dt=200A/\mu s, T_j=25^{\circ}C$  | $Q_{RR}$  | -    | 420.0  | -     | nC   |
|                          | $I_F=50A, V_R=400V, dI_F/dt=200A/\mu s, T_j=125^{\circ}C$ |           | -    | 2570.0 | -     |      |



#### 4. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

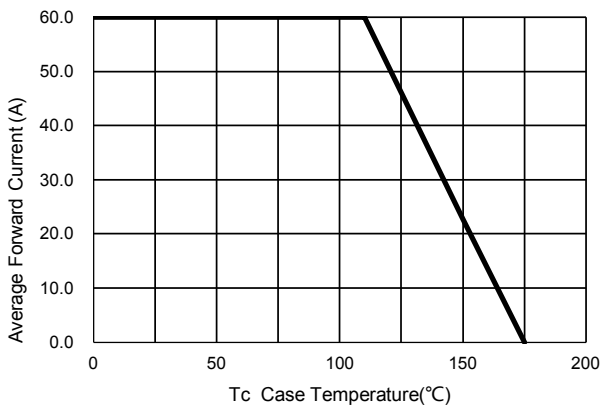


Fig. 2 Typical Forward Characteristics

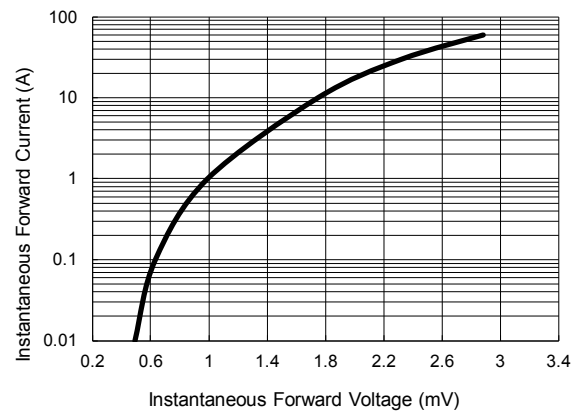


Fig. 3 Forward Surge Current Capability

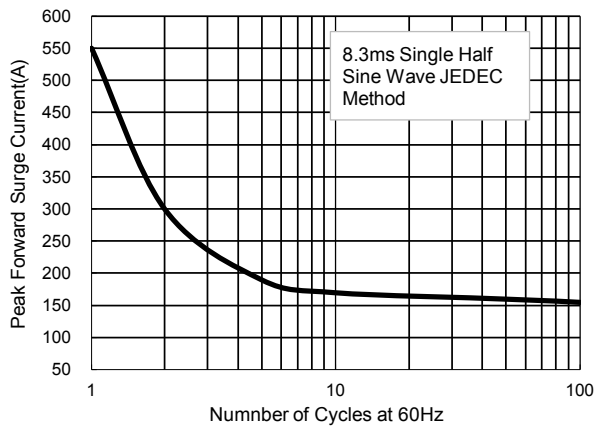


Fig.4 Typical Reverse Characteristics

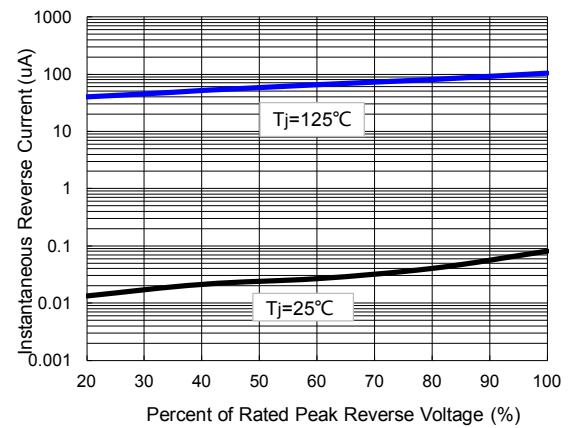
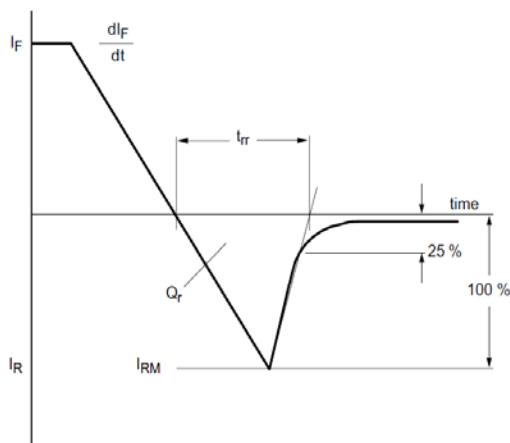
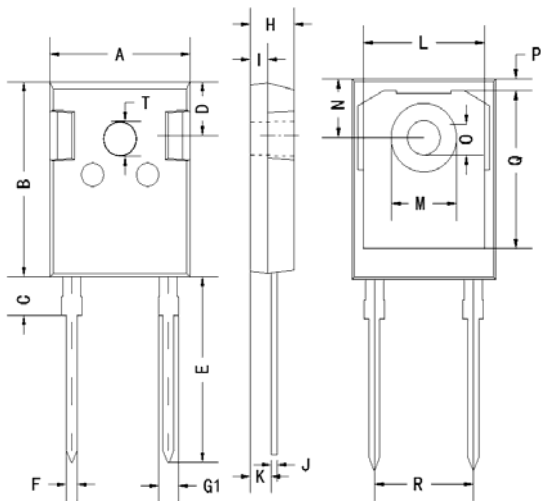


Fig. 5 Reverse recovery definitions; ramp recovery



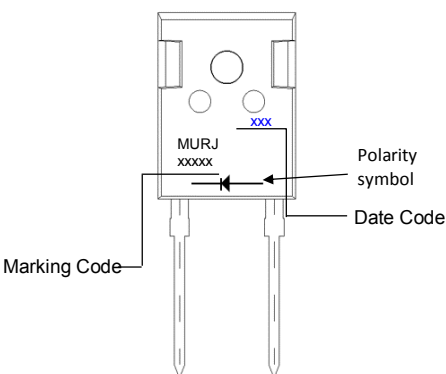
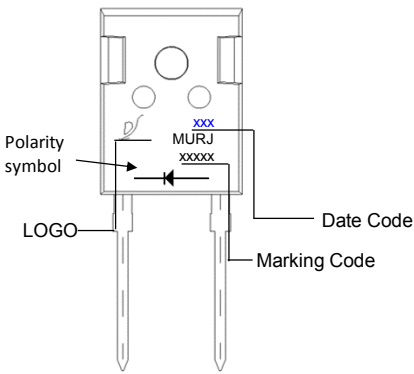


5. Dimensions



| Dimensions | Inches |       | Millimeters |       |
|------------|--------|-------|-------------|-------|
|            | Min    | Max   | Min         | Max   |
| A          | 0.614  | 0.630 | 15.60       | 16.00 |
| B          | 0.819  | 0.835 | 20.80       | 21.20 |
| C          | 0.155  | 0.170 | 3.93        | 4.33  |
| D          | 0.220  | 0.236 | 5.60        | 6.00  |
| E          | 0.776  | 0.792 | 19.72       | 20.12 |
| F          | 0.046  | 0.050 | 1.16        | 1.26  |
| G          |        | 0.089 |             | 2.25  |
| H          | 0.193  | 0.201 | 4.90        | 5.10  |
| I          | 0.075  | 0.083 | 1.90        | 2.10  |
| J          | 0.021  | 0.029 | 0.53        | 0.725 |
| K          | 0.091  | 0.099 | 2.31        | 2.51  |
| L          | 0.516  | 0.531 | 13.10       | 13.50 |
| M          | 0.276  | 0.291 | 7.00        | 7.40  |
| N          | 0.238  | 0.246 | 6.05        | 6.25  |
| O          | 0.14   | 0.15  | 3.55        | 3.75  |
| P          | 0.04   | 0.05  | 1.05        | 1.35  |
| Q          | 0.64   | 0.66  | 16.25       | 16.85 |
| R          | 0.42   | 0.44  | 10.68       | 11.08 |
| T          | 0.14   | 0.15  | 3.65        | 3.85  |

6. Part Marking System



7. Package Information

| Package  | Packing Type | Tube Size    | Quantity(pcs) |
|----------|--------------|--------------|---------------|
|          |              | mm           |               |
| TO247-2L | Tube         | 416*45.3*7.5 | 25            |



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