

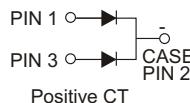


## FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Good for switching mode application

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any



**VOLTAGE RANGE**  
300 Volts  
**CURRENT**  
30.0 \*2 Ampere

GK XXX  
MUR6030PT

LOGO GK XXX CODE  
MUR60 30PT  
IF VR Voltage

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.

Single phase half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| TYPE NUMBER  | MU6030PT                    | UNITS |
|--|-----------------------------|-------|
| Maximum Recurrent Peak Reverse Voltage   | 300                         | V     |
| Maximum RMS Voltage  | 210                         | V     |
| Maximum DC Blocking Voltage  | 300                         | V     |
| Maximum Average Forward Rectified Current  | 60.0                        | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 500                         | A     |
| Maximum Instantaneous Forward Voltage at 30.0A<br>Type at 30.0A<br>Type at 20.0A<br>Type at 10.0 A | 1.2<br>0.99<br>0.87<br>0.81 | V     |
| Maximum DC Reverse Current Ta=25°C<br>at Rated DC Blocking Voltage Ta=100°C                        | 5<br>100                    | µA    |
| Maximum Reverse Recovery Time (Note 1)   | 35                          | nS    |
| Typical Junction Capacitance (Note 2)  | 200                         | pF    |
| Typical Thermal Resistance R <sub>θJ-C</sub> (Note 3)  | 1.8                         | °C/W  |
| Typical Thermal Resistance R <sub>θJ-A</sub> (Note 4)  | 50                          | °C/W  |
| Operating and Storage Temperature Range T <sub>J</sub> , T <sub>STG</sub>                          | -65 — +175                  | °C    |

NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Between junction and case
4. Between junction and Air

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

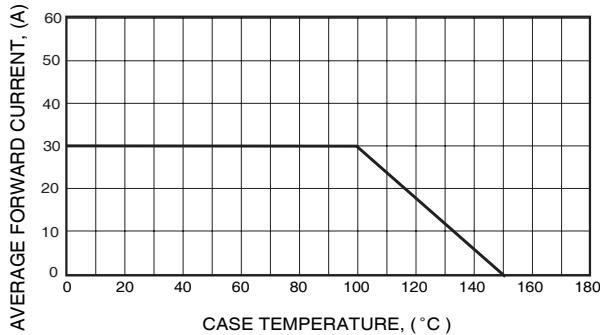


FIG.2-TYPICAL FORWARD CHARACTERISTICS

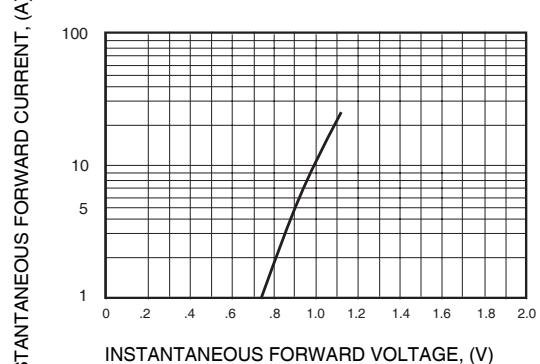


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

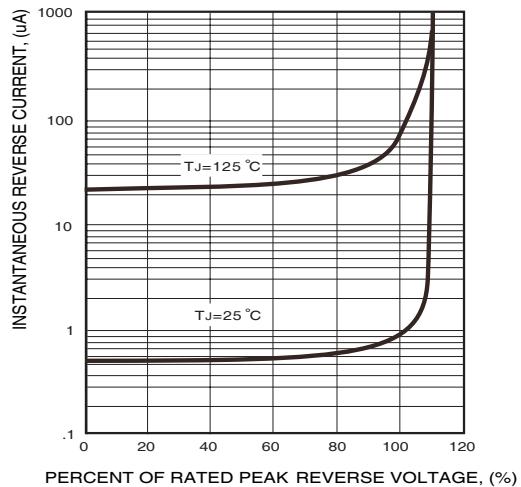
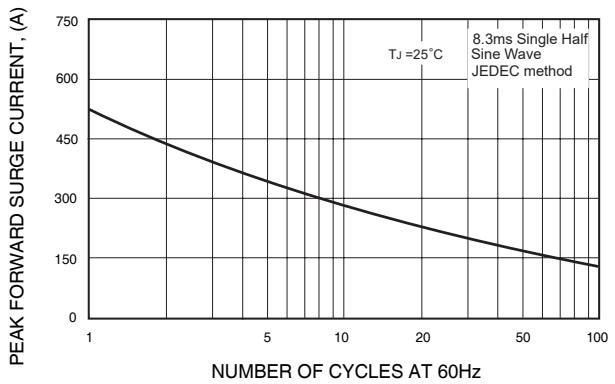
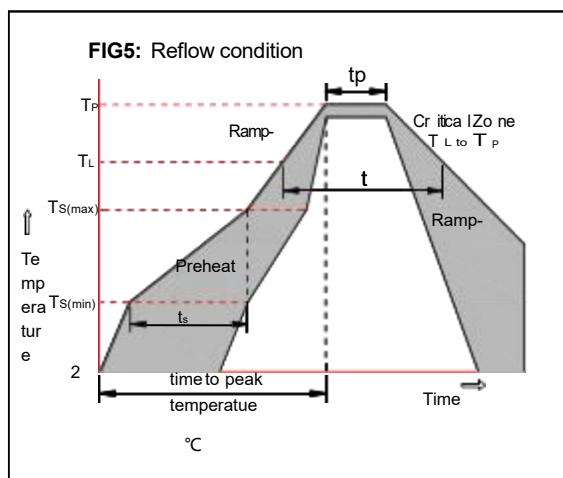


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



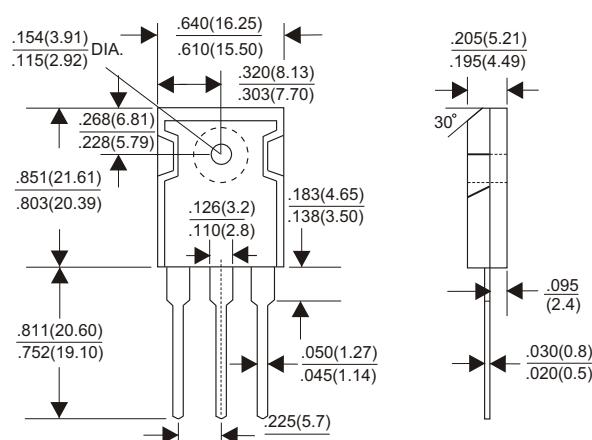
## Soldering parameters

| Reflow Condition  |                                    | Pb-Free assembly<br>(see as bellow) |
|---|------------------------------------|-------------------------------------|
| Pre<br>Heat   | -Temperature Min ( $T_{s(\min)}$ ) | +150 °C                             |
|   | -Temperature Max( $T_{s(\max)}$ )  | +200 °C                             |
|   | -Time (Min to Max) ( $t_s$ )       | 60-180 secs.                        |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                    | 3 °C/sec. Max                       |
| $T_{s(\max)}$ to $T_L$ - Ramp-up Rate                   |                                    | 3 °C/sec. Max                       |
| Reflow  | -Temperature( $T_L$ )(Liquid us)   | +217 °C                             |
|   | -Temperature( $t_L$ )              | 60-150 secs.                        |
| Peak Temp ( $T_p$ )                                     |                                    | +260(+0/-5) °C                      |
| Time within 5 °C of actual Peak Temp ( $t_p$ )          |                                    | 30 secs. Max                        |
| Ramp-down Rate  |                                    | 6 °C/sec. Max                       |
| Time 25 °C to Peak Temp ( $T_p$ )                       |                                    | 8 min. Max                          |
| Do not exceed   |                                    | +260 °C                             |



## Package Dimensions & Suggested Pad Layout

TO-247



Dimensions in inches and (millimeters)