

**VOLTAGE RANGE**  
600Volts  
**CURRENT**  
60 Ampere

## FEATURES

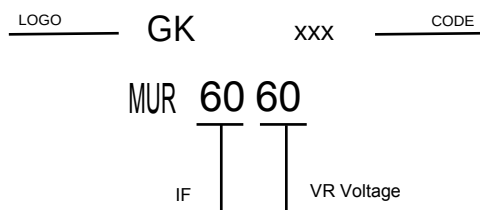
EPI wafer  
Low VF and soft recovery characteristic  
Low power loss  
For PFC(DCM/CCM) operation  
Lead free in compliance with EU RoHS  
2011/65/EU directive

PIN 1  PIN 2 & (case)  
PIN 3 



## MECHANICAL DATA

Circuit figure: Single positive  
Leads: Solderable per mil-std-202, Method 208  
Polarity: as marked  
Mounting torque: 5 in-lbs maximum  
Terminals: Puretin plated



## 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%.

| RATINGS                                                                            | SYMBOL | MUR6060     | UNIT |
|------------------------------------------------------------------------------------|--------|-------------|------|
| Maximum repetitive reverse voltage                                                 | VRRM   | 600         | V    |
| Maximum RMS voltage                                                                | VRMS   | 420         | V    |
| Maximum DC blocking voltage                                                        | VDC    | 600         | V    |
| Maximum average forward current                                                    | IAV    | 60          | A    |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | IFSM   | 560         | A    |
| Typical thermal resistance per diode (Note 1)                                      | Rθ-JC  | 1.5         | °C/W |
| Operating junction temperature range                                               | TJ     | -55 to +175 | °C   |
| Storage temperature range                                                          | TSTG   | -55 to +150 | °C   |

Notes: 1. Thermal resistance from junction to case.

| PARAMETER                               | SYMBOL | TEST CONDITIONS                          | MIN.   | TYP.   | MAX.      | UNIT |
|-----------------------------------------|--------|------------------------------------------|--------|--------|-----------|------|
| Instantaneous forward voltage per diode | VF     | IF= 60A TJ=25°C                          | -      | 1.75   | 2.00      | V    |
|                                         |        | IF= 60A TJ=125°C                         | -      | -      | 1.80      | V    |
| Reverse current per diode               | IR     | VR=600V TJ=25°C<br>TJ=125°C              | -<br>- | -<br>- | 50<br>500 | uA   |
| Reverse recovery time                   | TRR    | IF= 0.5A<br>IR=1.0A<br>IRR=0.25A TJ=25°C | -      | 55     | 65        | ns   |

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

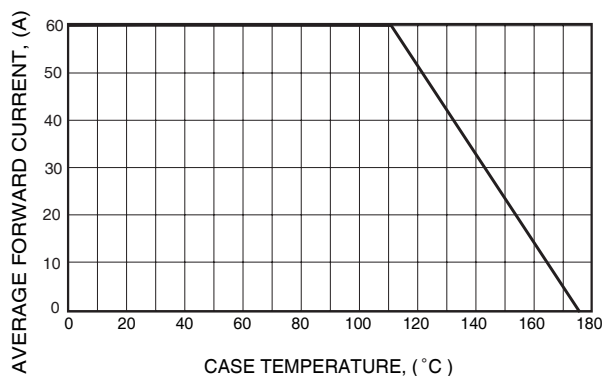


FIG.2-TYPICAL FORWARD CHARACTERISTICS

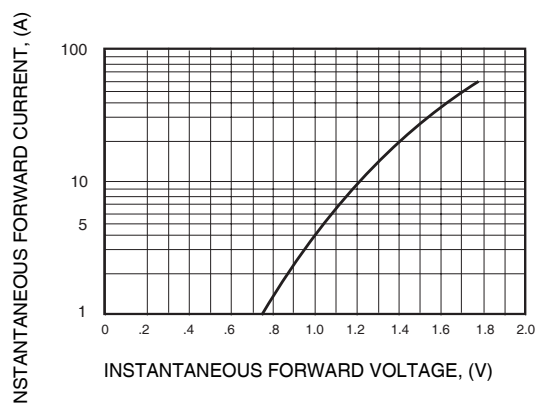


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

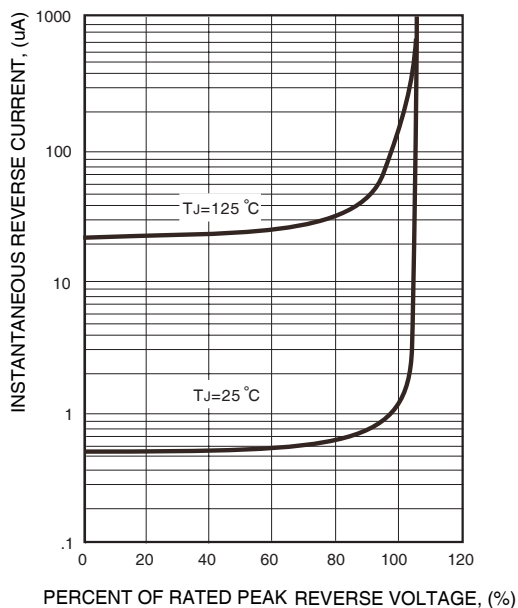
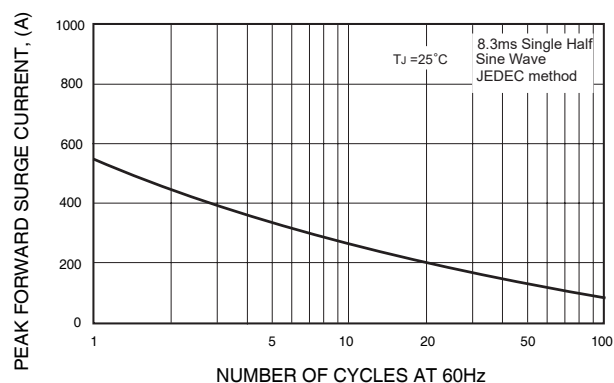
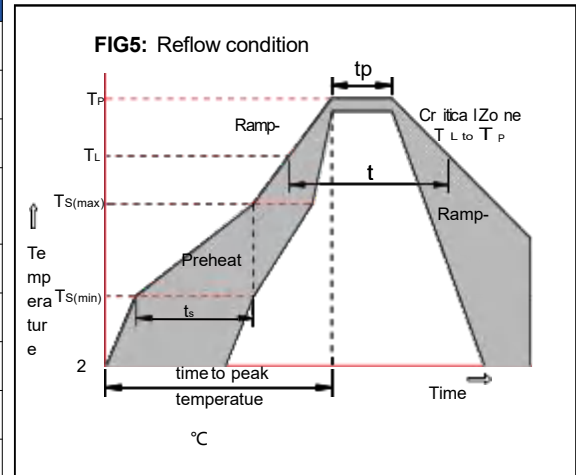


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 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 AC

