

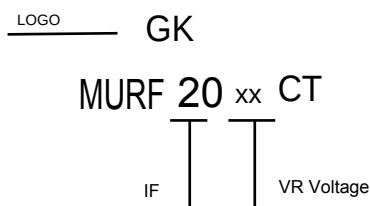
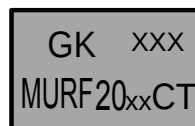
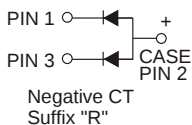
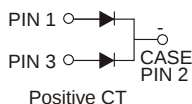


## FEATURES

- \* 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



## 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                                                                                        | MURF2005CT | MURF2010CT | MURF2020CT | MURF2030CT | MURF2040CT | MURF2060CT | MURF2080CT | MURF20100CT | UNITS |
|----------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                             | 50         | 100        | 200        | 300        | 400        | 600        | 800        | 1000        | V     |
| Maximum RMS Voltage                                                                                | 35         | 70         | 140        | 210        | 280        | 420        | 560        | 700         | V     |
| Maximum DC Blocking Voltage                                                                        | 50         | 100        | 200        | 300        | 400        | 600        | 800        | 1000        | V     |
| Maximum Average Forward Rectified Current                                                          | 20.0       |            |            |            |            |            |            |             | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 200        |            |            |            |            |            |            |             | A     |
| Maximum Instantaneous Forward Voltage at 20.0A                                                     | 1.0        |            |            | 1.3        |            | 1.75       |            |             | V     |
| Maximum DC Reverse Current<br>Ta=25°C                                                              | 10         |            |            |            |            |            |            |             | μA    |
| at Rated DC Blocking Voltage<br>Ta=100°C                                                           | 400        |            |            |            |            |            |            |             | μA    |
| Maximum Reverse Recovery Time (Note 1)                                                             | 50         |            |            |            |            |            |            |             | nS    |
| Typical Junction Capacitance (Note 2)                                                              | 90         |            |            |            |            |            |            |             | pF    |
| Operating and Storage Temperature Range Tj, TSTG                                                   | -65 — +150 |            |            |            |            |            |            |             | °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.

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

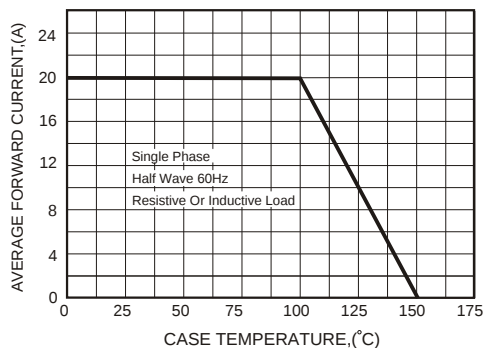


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS

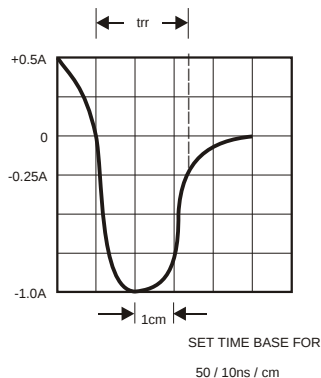
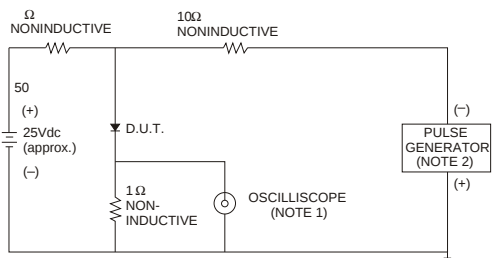


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

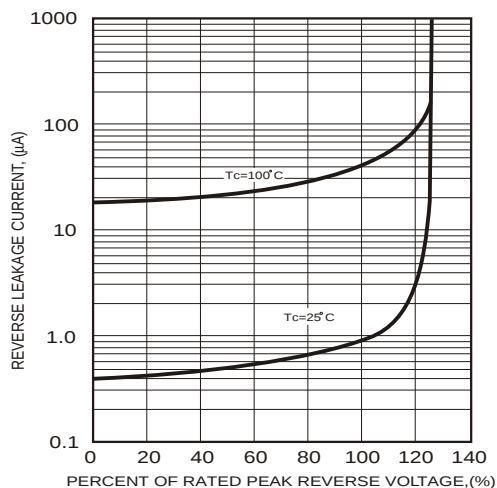


FIG.2-TYPICAL FORWARD CHARACTERISTICS

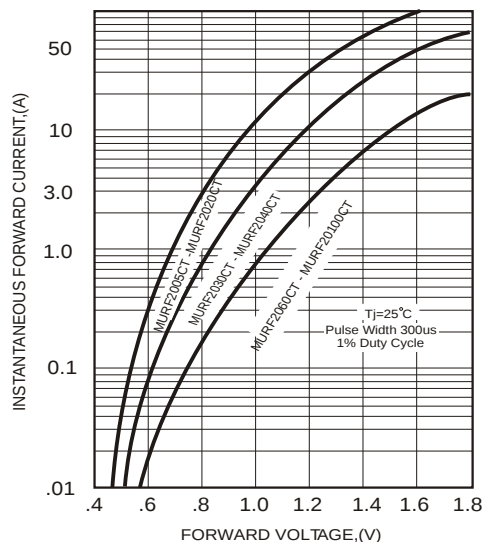


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

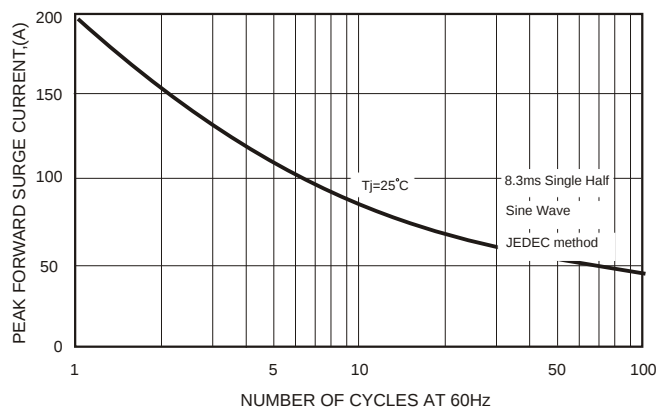
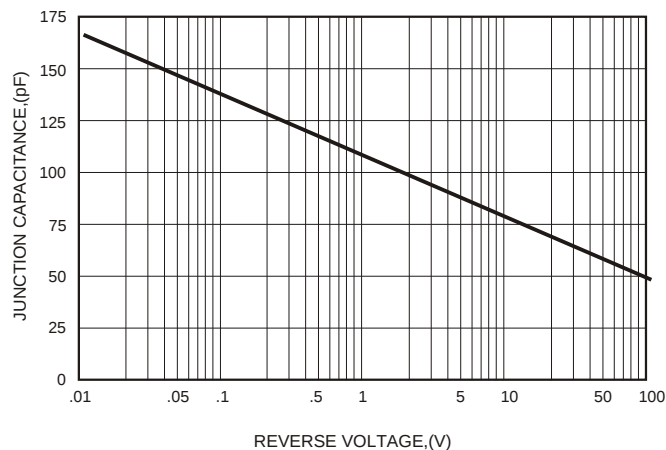
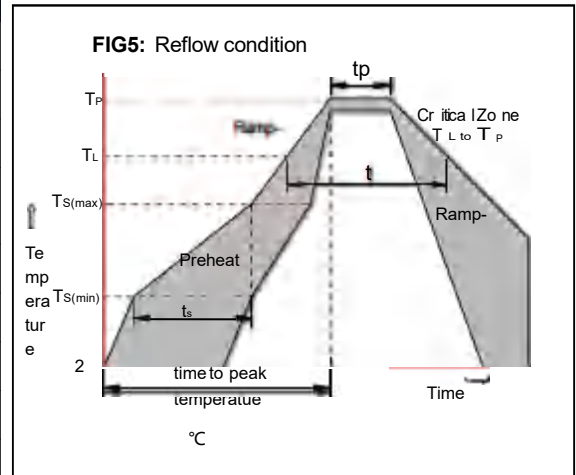


FIG.6-TYPICAL JUNCTION CAPACITANCE



## 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

