TAIWAN SEMICONDUCTOR

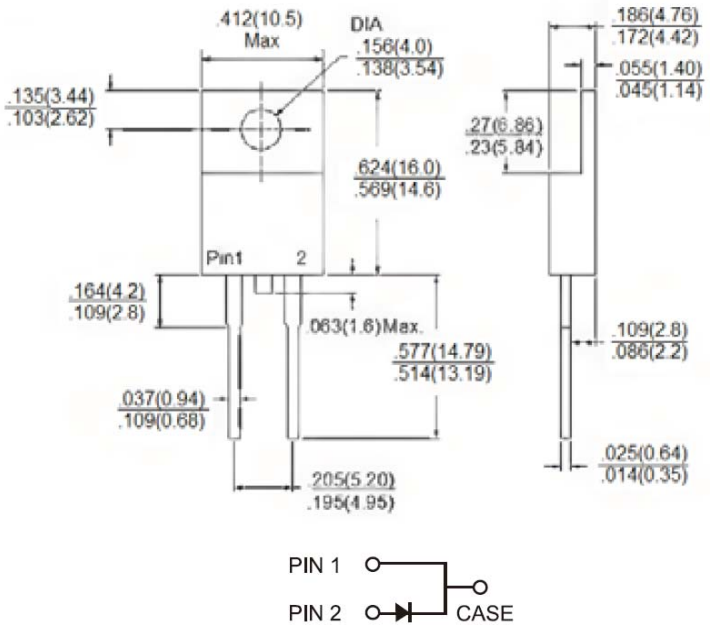
# MUR820 - MUR860

8.0AMP. Glass Passivated Super Fast Rectifiers

**TO-220AC**

RoHS COMPLIANCE






## Features

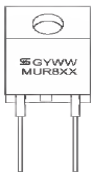
- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ For use in low volyage, high frequency inventor, free wheeling, and polarity protection application.
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

## Mechanical Data

- ✧ Case: TO-220AC molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated leads, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260℃/10s/.25", (6.35mm) from case.
- ✧ Weight:1.9 grams

**Dimensions in inches and (millimeters)**

**Marking Diagram**




MUR8XX = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

## Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| Type Number | Symbol | MUR820 | MUR840 | MUR860 | Units |
|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 200 | 400 | 600 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 140 | 280 | 420 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 200 | 400 | 600 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 8 | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 100 | | | A |
| Maximum Instantaneous Forward Voltage (Note 1) @ 8 A | $V_F$ | 0.975 | 1.30 | 1.70 | V |
| Maximum Reverse Current @ $T_A$=25 ℃ @ $T_A$=100 ℃ | $I_R$ | 5 250 | | | uA uA |
| Maximum Reverse Recovery Time (Note 2) | $T_{rr}$ | 25 | 50 | | ns |
| Typical Thermal Resistance | $R_{\theta JC}$ | 3.0 | 2.0 | | $^{O}$C/W |
| Operating Temperature Range | $T_J$ | -65 to + 175 | | | $^{O}$C |
| Storage Temperature Range | $T_{STG}$ | -65 to + 175 | | | $^{O}$C |

Note 1: Pulse lest: tp = 300uS, Duty Cycle<1%

Note 2: Reverse Recovery Test Condition:IF=0.5A, IR=1.0A, IRR=0.25A

TAIWAN SEMICONDUCTOR

# RATINGS AND CHARACTERISTIC CURVES (MUR820 THRU MUR860)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

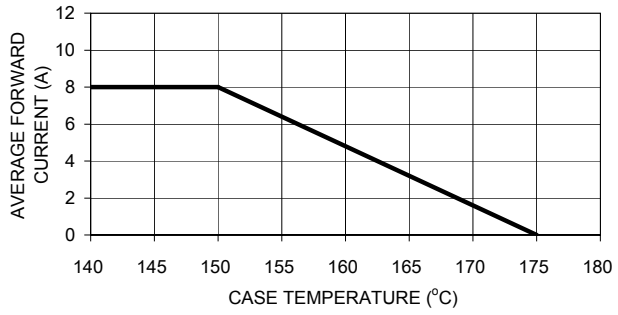



FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

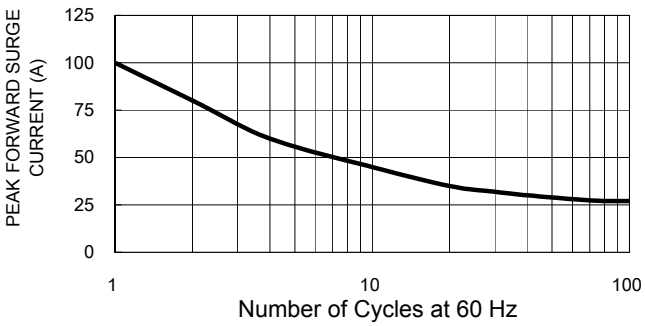



FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

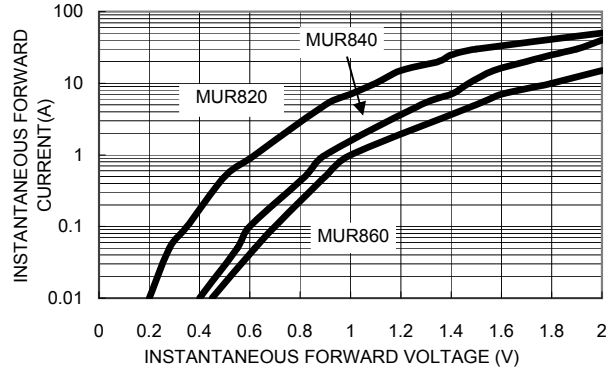



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

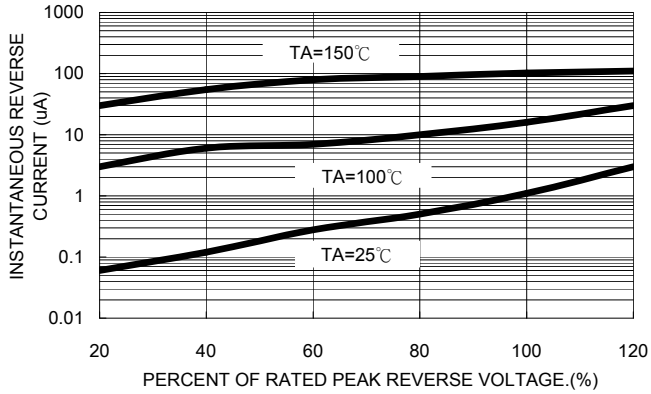



FIG. 5 TYPICAL JUNCTION CAPACITANCE

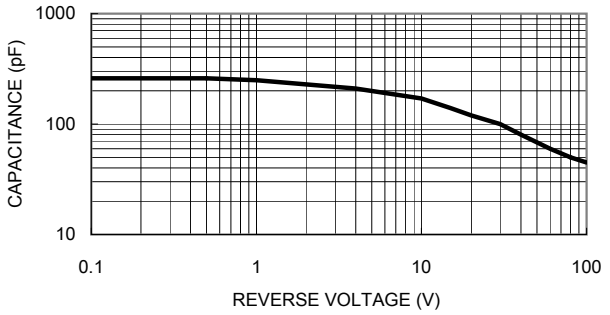
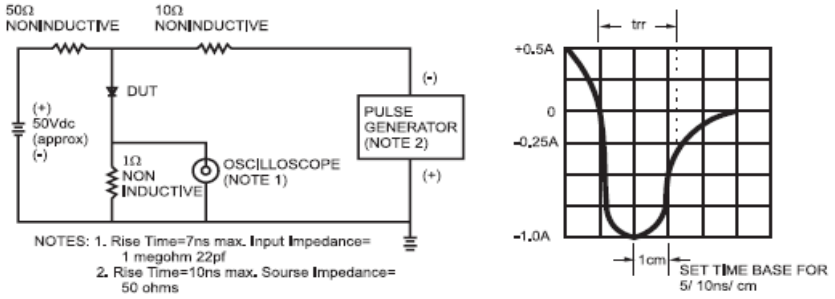



FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM




Version:G11