

Features

- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ For use in low voltage, high frequency inverter, 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°C/10s/.25", (6.35mm) from case.
- ✧ Weight: 1.9 grams

Ordering Information(example)

| Part No. | Package | Packing | Packing code | Packing code (Green) |
|----------|----------|-----------|--------------|----------------------|
| MUR820 | TO-220AC | 50 / TUBE | C0 | C0G |

Maximum Ratings and Electrical Characteristics

For capacitive load, derate current by 20%

| Parameter | 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 @ $T_A=25^\circ\text{C}$ @ $T_A=100^\circ\text{C}$ | I_R | 5 250 | | | uA uA |
| Maximum Reverse Recovery Time (Note 2) | T_{rr} | 25 | 50 | | ns |
| Typical Thermal Resistance | $R_{\theta JC}$ | 3 | 2 | | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_J | -65 to + 175 | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to + 175 | | | $^\circ\text{C}$ |

Note 1: Pulse test: $t_p = 300\mu\text{s}$, Duty Cycle < 1%

Note 2: Reverse Recovery Test Condition: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

RATINGS AND CHARACTERISTIC CURVES (MUR820 THRU MUR860)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

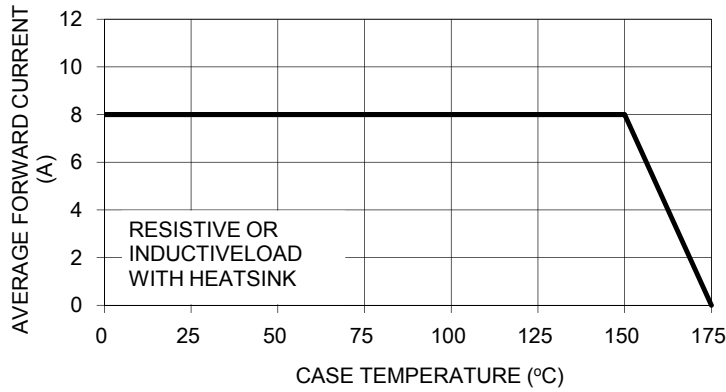


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

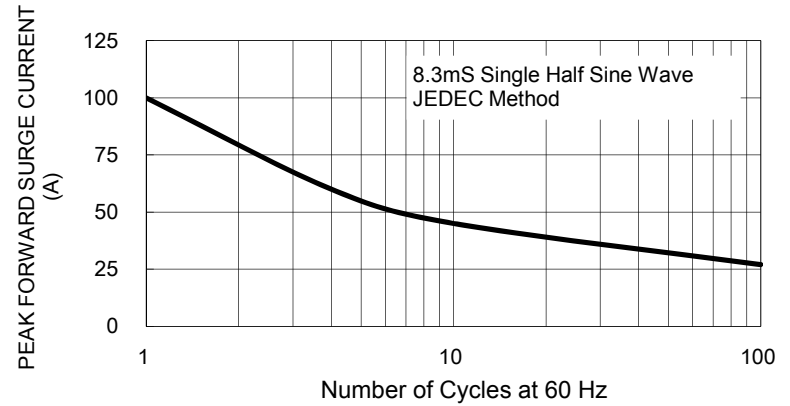


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

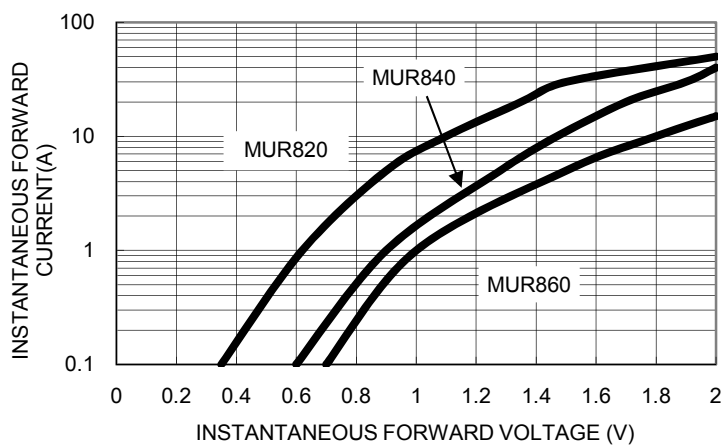


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

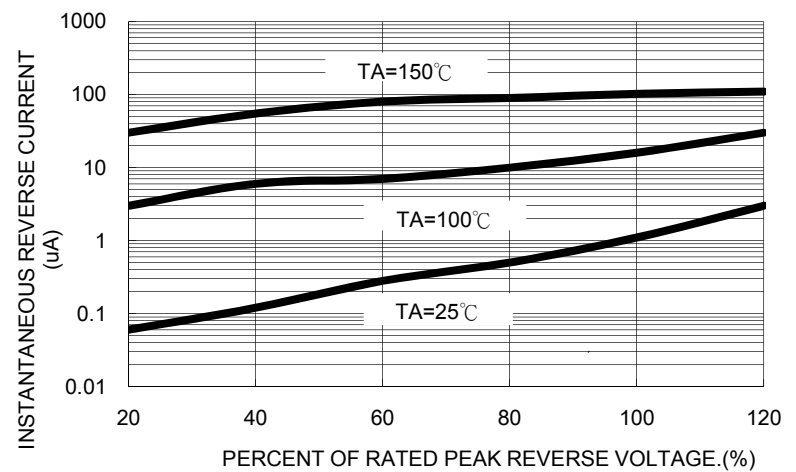


FIG. 5 TYPICAL JUNCTION CAPACITANCE

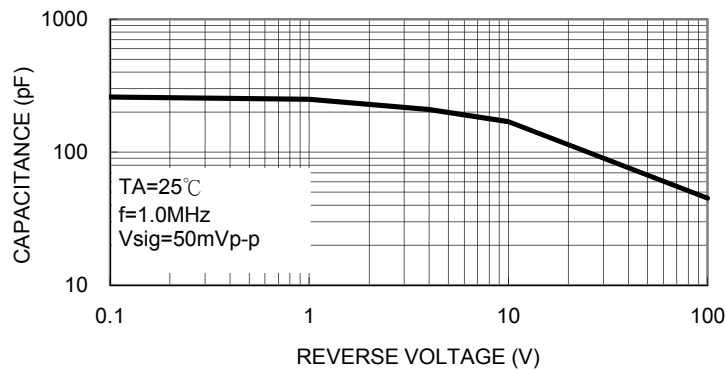
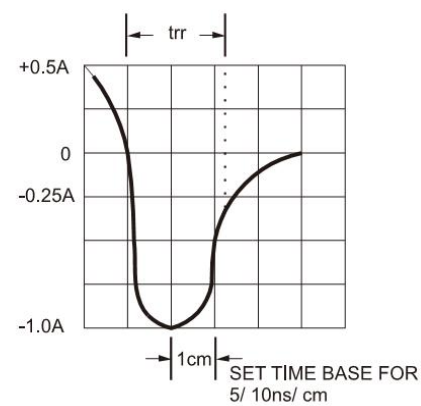
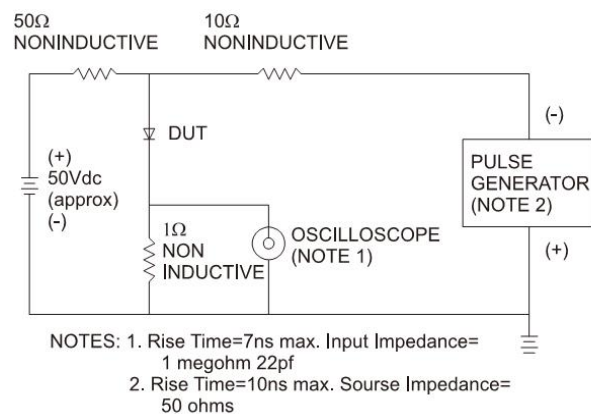


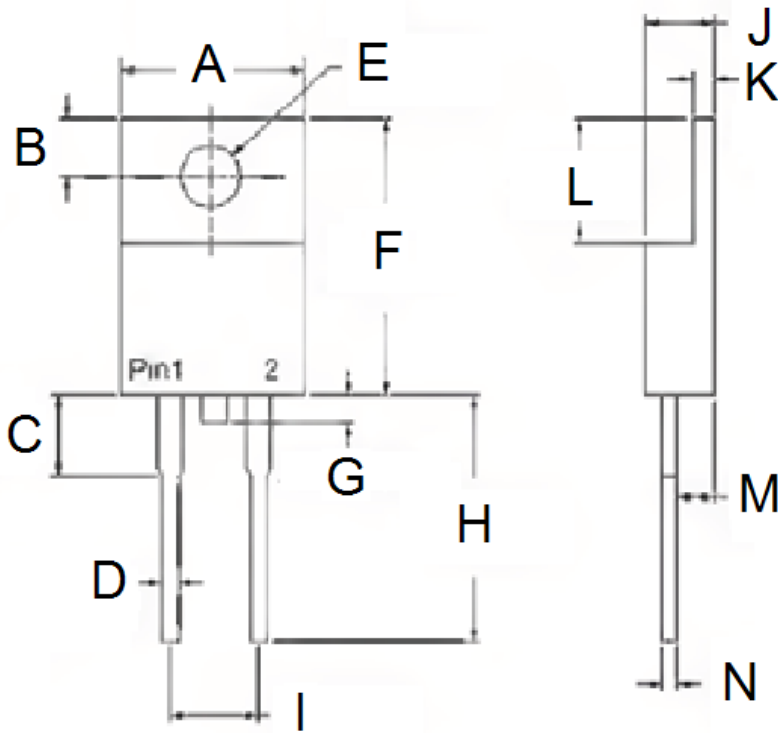
FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



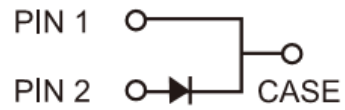
Ordering information

| Part No. | Package | BULK Packing | Packing code | Packing code (Green) |
|----------|----------|--------------|--------------|----------------------|
| MUR8x0 | TO-220AC | 50 / TUBE | C0 | C0G |

Note: "xx" is Device Code from "2" thru "6".

Dimensions


| DIM. | Unit(mm) | | Unit(inch) | |
|------|----------|-------|------------|-------|
| | Min | Max | Min | Max |
| A | - | 10.50 | - | 0.413 |
| B | 2.62 | 3.44 | 0.103 | 0.135 |
| C | 2.80 | 4.20 | 0.110 | 0.165 |
| D | 0.68 | 0.94 | 0.027 | 0.037 |
| E | 3.54 | 4.00 | 0.139 | 0.157 |
| F | 14.60 | 16.00 | 0.575 | 0.630 |
| G | - | 1.60 | - | 0.063 |
| H | 13.19 | 14.79 | 0.519 | 0.582 |
| I | 4.95 | 5.20 | 0.195 | 0.205 |
| J | 4.42 | 4.76 | 0.174 | 0.187 |
| K | 1.14 | 1.40 | 0.045 | 0.055 |
| L | 5.84 | 6.86 | 0.230 | 0.270 |
| M | 2.20 | 2.80 | 0.087 | 0.110 |
| N | 0.35 | 0.64 | 0.014 | 0.025 |


Marking Diagram


P/N = Specific Device Code
 G = Green Compound
 YWW = Date Code