

2.0A Surface Mount High Efficiency Rectifiers - 50V-1000V

Features

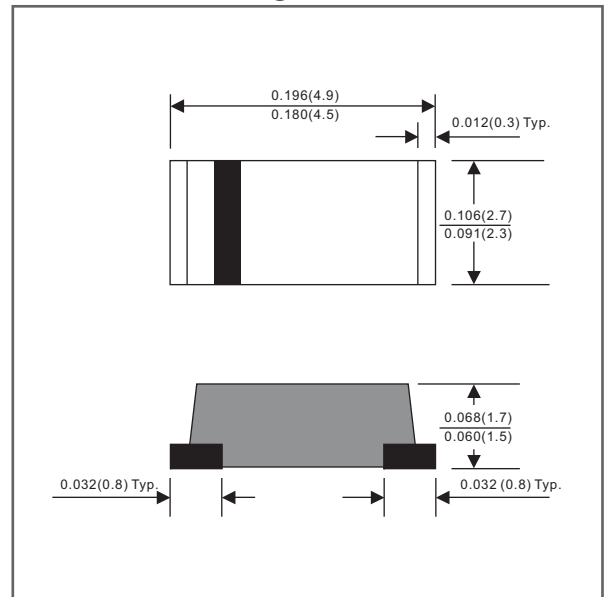
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- High current capability.
- Ultrafast recovery time for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free parts, ex. MURA205G-H.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, JEDEC DO-214AC / SMA
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.05 gram

Package outline

SMA



Dimensions in inches and (millimeters)

Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|----------------------------|--|-----------------|------|------|------|---------------------------|
| Forward rectified current | Ambient temperature = 50°C | I_O | | | 2.0 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 50 | A |
| Reverse current | $V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$ | I_R | | | 5.0 | μA |
| | $V_R = V_{RRM}$ $T_J = 100^\circ\text{C}$ | | | | 150 | |
| Thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 20 | | $^\circ\text{C}/\text{W}$ |
| Diode junction capacitance | $f=1\text{MHz}$ and applied 4V DC reverse voltage | C_J | | 25 | | pF |
| Storage temperature | | T_{STG} | -65 | | +175 | $^\circ\text{C}$ |

| SYMBOLS | V_{RRM}^{*1} (V) | V_{RMS}^{*2} (V) | V_R^{*3} (V) | V_F^{*4} (V) | T_{RR}^{*5} (nS) | Operating temperature T_J ($^\circ\text{C}$) |
|-----------|-----------------------|-----------------------|-------------------|-------------------|-----------------------|---|
| MURA205G | 50 | 35 | 50 | 1.00 | 50 | -55 to +150 |
| MURA210G | 100 | 70 | 100 | | | |
| MURA220G | 200 | 140 | 200 | | | |
| MURA240G | 400 | 280 | 400 | 1.30 | | |
| MURA260G | 600 | 420 | 600 | 1.70 | 75 | |
| MURA280G | 800 | 560 | 800 | | | |
| MURA2100G | 1000 | 700 | 1000 | | | |

- *1 Repetitive peak reverse voltage
- *2 RMS voltage
- *3 Continuous reverse voltage
- *4 Maximum forward voltage@ $I_F=2.0\text{A}$
- *5 Maximum Reverse recovery time, note 1

Note 1. Reverse recovery time test condition, $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Rating and characteristic curves

FIG.1-TYPICAL FORWARD

CHARACTERISTICS

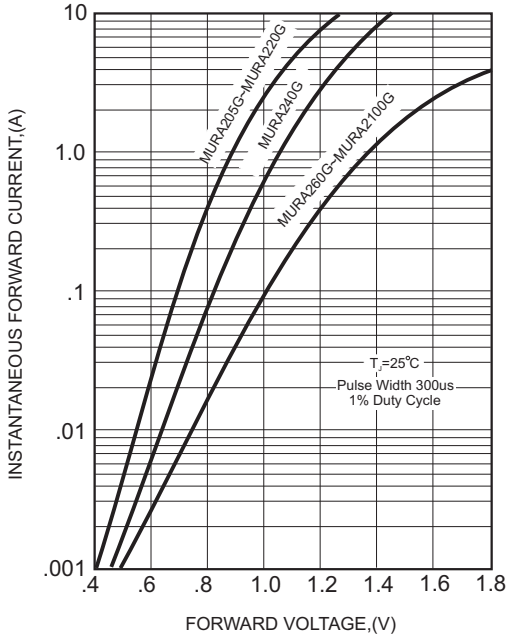


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

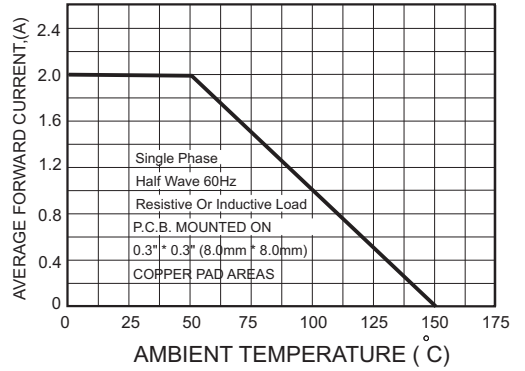
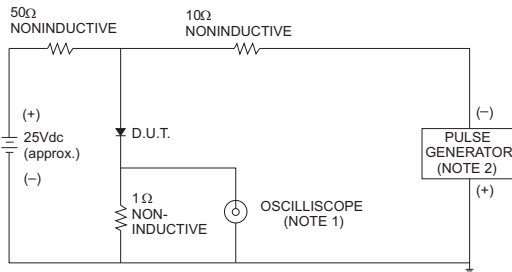


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE

RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

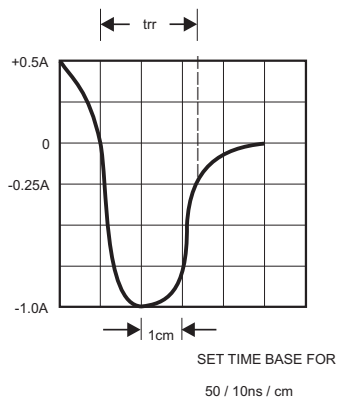


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

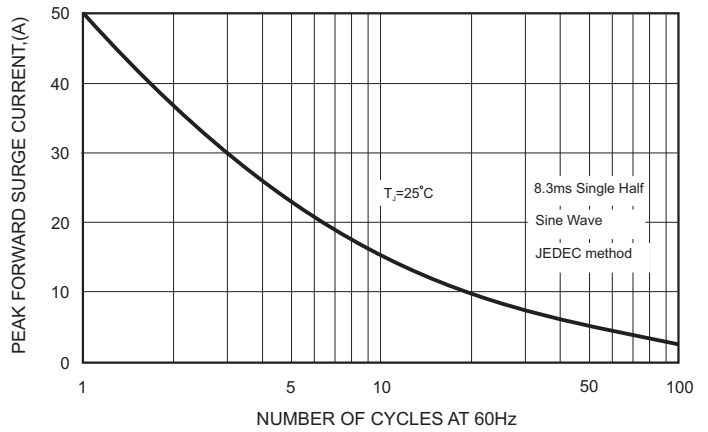


FIG.5-TYPICAL JUNCTION CAPACITANCE

