



## 2.0A Glass Passivated Surface Mount Efficient Fast Rectifiers - 50-600V

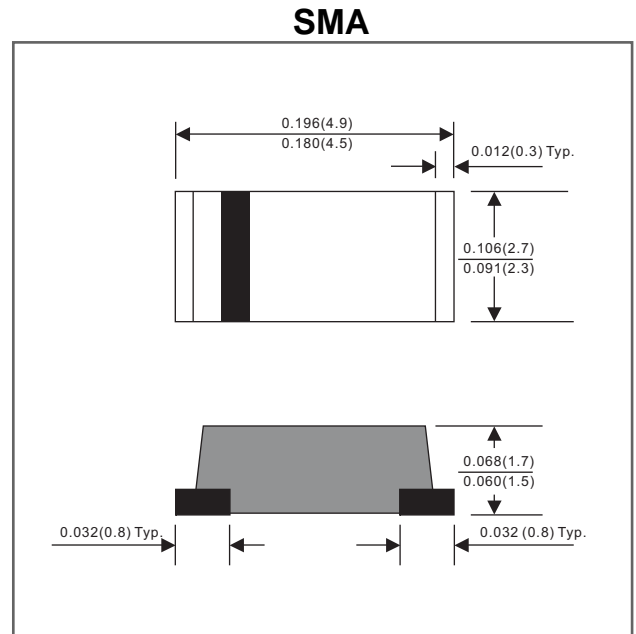
### Package outline

#### 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.
- Tiny plastic SMD package.
- Trr less than 25ns for high efficiency
- High current & surge capability
- Low forward dropdown voltage
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen free parts, ex. FMEG201DG-H.

#### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, 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



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 = $55^{\circ}\text{C}$                            | $I_o$     |      |      | 2.0  | A                  |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC methode) | $I_{FSM}$ |      |      | 50   | A                  |
| Reverse current            | $V_R = V_{RRM}$ $T_J = 25^{\circ}\text{C}$                            | $I_R$     |      |      | 5.0  | $\mu\text{A}$      |
|                            | $V_R = V_{RRM}$ $T_J = 125^{\circ}\text{C}$                           |           |      |      | 100  |                    |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage                              | $C_J$     |      | 15   |      | pF                 |
| Storage temperature        |   | $T_{STG}$ | -65  |      | +175 | $^{\circ}\text{C}$ |

| SYMBOLS   | $V_{RRM}$ <sup>*1</sup><br>(V) | $V_{RMS}$ <sup>*2</sup><br>(V) | $V_R$ <sup>*3</sup><br>(V) | $V_F$ <sup>*4</sup><br>(V) | $T_{RR}$ <sup>*5</sup><br>(nS) | Operating temperature<br>$T_J$ , ( $^{\circ}\text{C}$ ) |
|-----------|--------------------------------|--------------------------------|----------------------------|----------------------------|--------------------------------|---|
| FMEG201DG | 50                             | 35                             | 50                         | 0.875                      | 25                             | -55 to +150   |
| FMEG202DG | 100                            | 70                             | 100                        |                            |                                |   |
| FMEG203DG | 200                            | 140                            | 200                        |                            |                                |   |
| FMEG204DG | 400                            | 280                            | 400                        | 1.25                       |                                |   |
| FMEG205DG | 600                            | 420                            | 600                        | 1.75                       |                                |   |

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

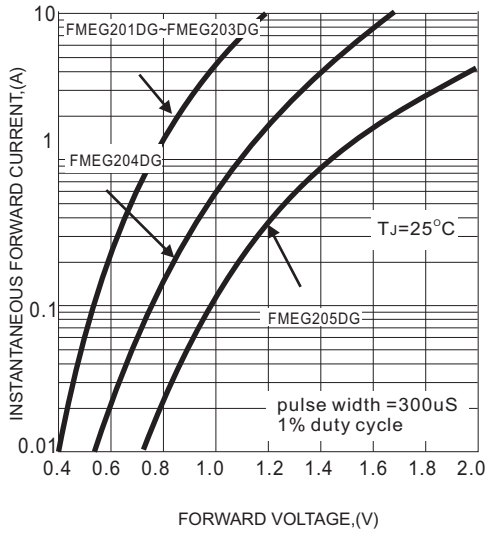


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

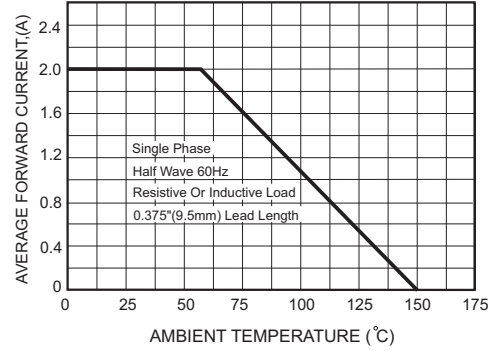


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

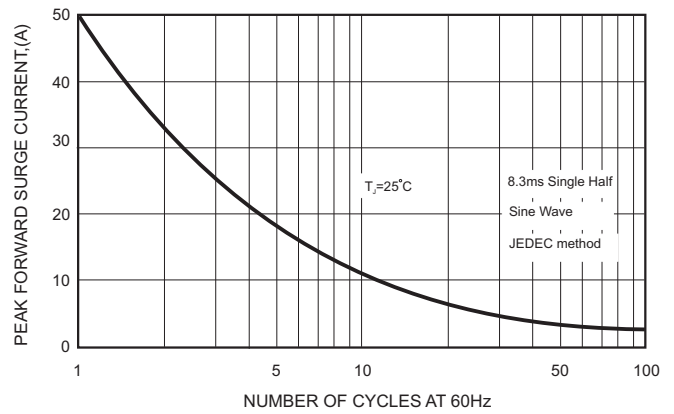
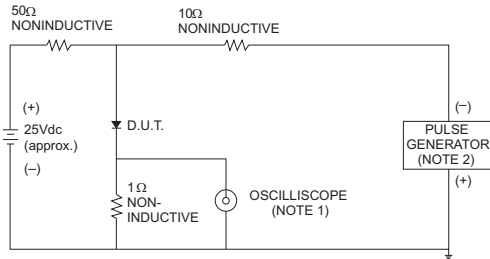


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



- NOTES: 1. Rise Time = 7ns max., Input Impedance = 1 megohm, 22pF.  
2. Rise Time = 10ns max., Source Impedance = 50 ohms.

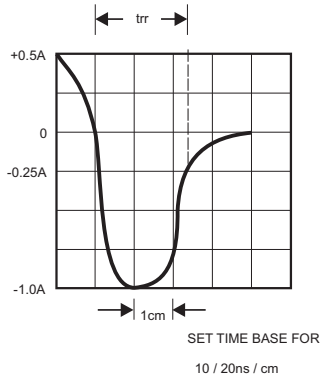


FIG.5-TYPICAL JUNCTION CAPACITANCE

