



1.0A Glass Passivated Surface Mount Efficient Fast Rectifiers - 50-600V

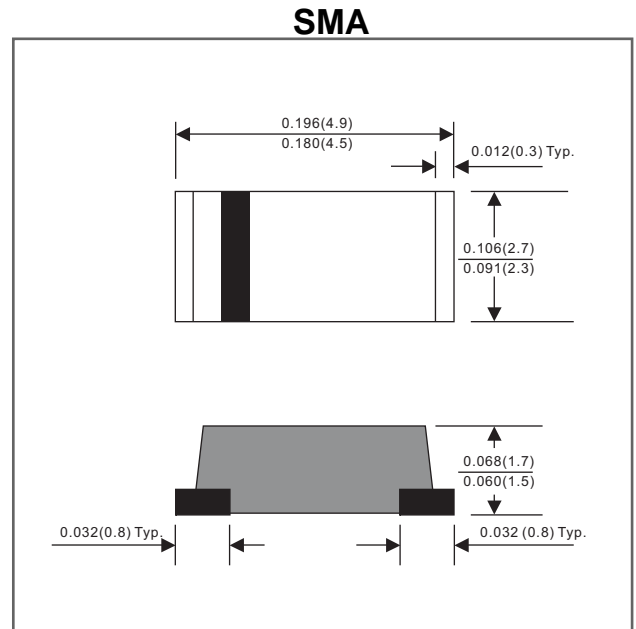
Package outline

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.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. FMEG101DG-H.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic, DO-214AC / SMA
- Terminals: Plated terminals, 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°C	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM}$ $T_J = 125^\circ\text{C}$				100	
Diode junction capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		15		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 , ($^\circ\text{C}$)
FMEG101DG	50	35	50	0.875	25	-55 to +150
FMEG102DG	100	70	100			
FMEG103DG	200	140	200			
FMEG105DG	400	280	400	1.25		
FMEG105DG	600	420	600	1.75		

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

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I = 1.0\text{A}$

*5 Reverse recovery time, note 1

Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

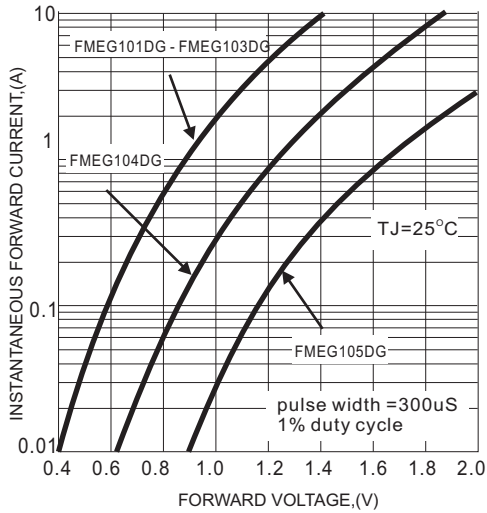


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

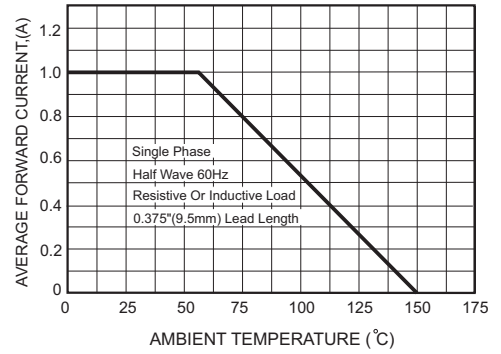


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

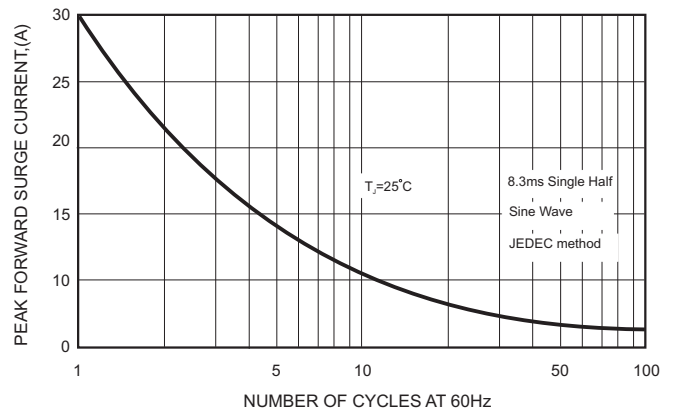
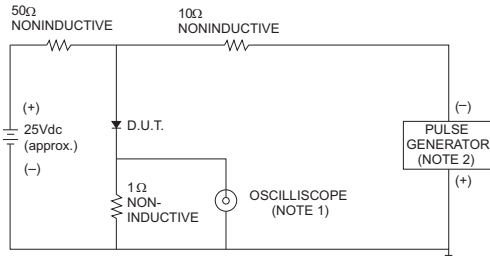


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

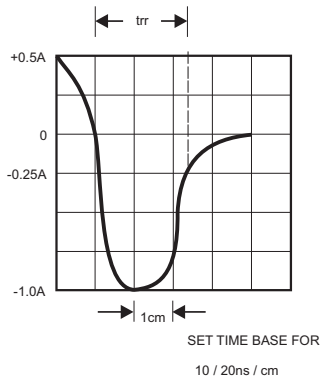


FIG.5-TYPICAL JUNCTION CAPACITANCE

