



# FMEG201BDG THRU FMEG205BDG

Chip Silicon Rectifier

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

### Features

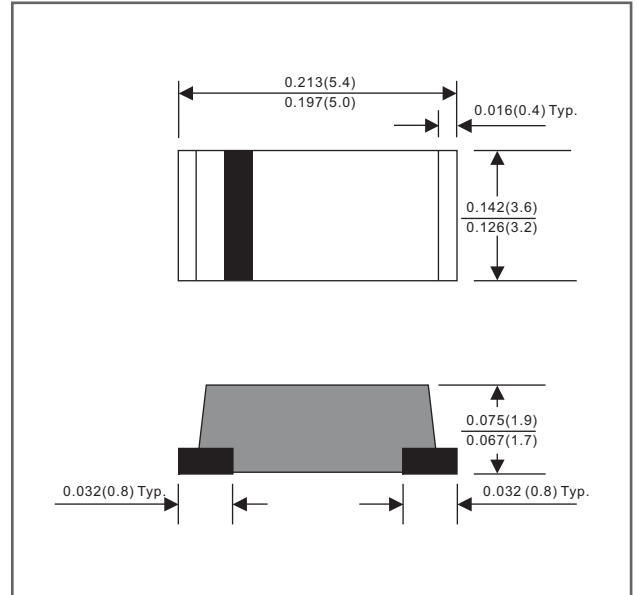
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Tiny plastic SMD package.
- Trr less than 25ns for high efficiency
- High current & surge capability
- Low forward dropdown voltage.
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen free parts, ex. FMEG201BDG-H.

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AA / SMB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.09 gram

### Package outline

#### SMB



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)	$I_{FSM}$			60	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
Thermal Resistance		$R_{\theta JA}$		25		$^\circ\text{C}/\text{W}$
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 $T_J$ , ( $^\circ\text{C}$ )
FMEG201BDG	50	35	50	0.875	25	-55 to +150
FMEG202BDG	100	70	100			
FMEG203BDG	200	140	200			
FMEG204BDG	400	280	400	1.25		
FMEG205BDG	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

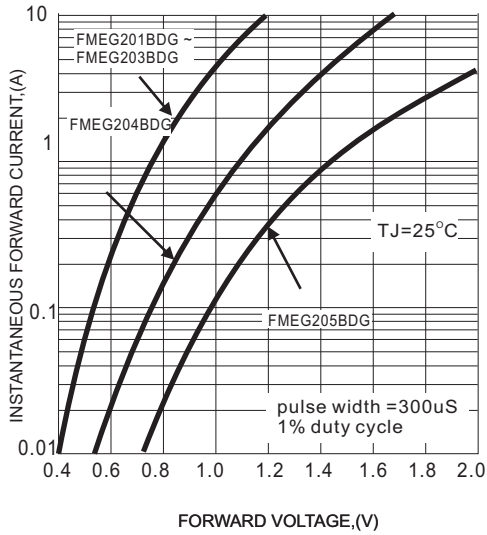


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

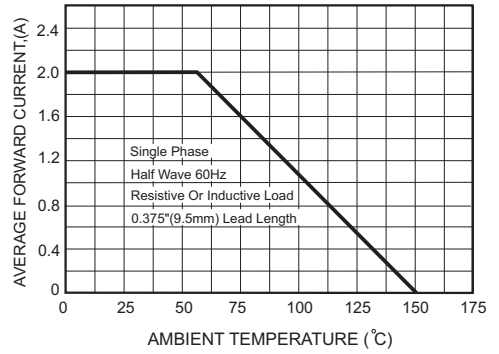


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

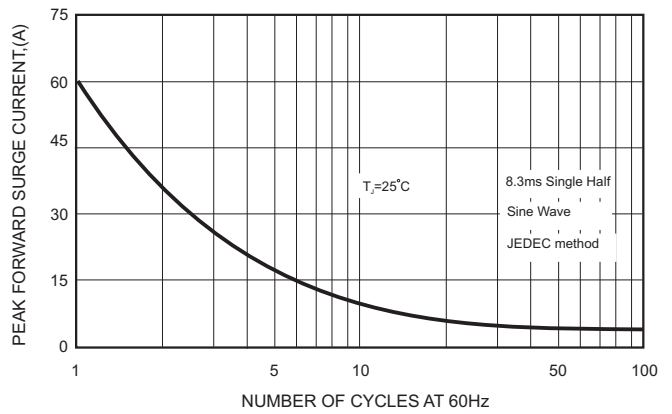
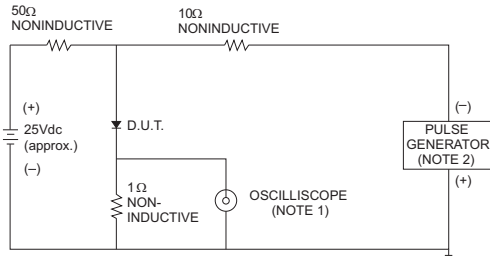


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

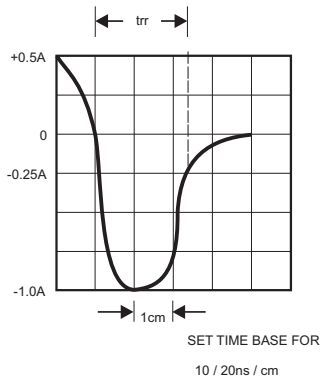


FIG.5-TYPICAL JUNCTION CAPACITANCE

