

**SURFACE MOUNT GLASS PASSIVATED  
SUPER FAST SILICON RECTIFIER**  
**VOLTAGE RANGE 50 to 600 Volts CURRENT 3.0 Amperes**

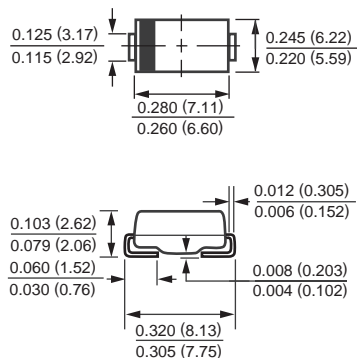
**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.24 gram

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0

**DO-214AB**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	EFM301	EFM302	EFM303	EFM304	EFM305	EFM306	EFM307	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	600	Volts
Maximum RMS Volts	VRMS	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	Volts
Maximum Average Forward Current at TA = 55°C	Io	3.0							Amps
Peak Forward Surge Current IFM (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	125							Amps
Typical Junction Capacitance (Note 2)	CJ	50				30			pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150							°C

**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

CHARACTERISTICS		SYMBOL	EFM301	EFM302	EFM303	EFM304	EFM305	EFM306	EFM307	UNITS
Maximum Forward Voltage at 3.0A DC		V <sub>F</sub>	0.95				1.25		1.70	Volts
Maximum DC Reverse Current	@ T <sub>A</sub> = 25°C	I <sub>R</sub>	5.0							uAmps
at Rated DC Blocking Voltage	@ T <sub>A</sub> = 150°C		50							
Maximum Reverse Recovery Time (Note 1)		trr	35						50	nSec

NOTES : 1. Test Conditions: IF=0.5A, IR=-1.0A, IRR=-0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2002-12

# RATING AND CHARACTERISTIC CURVES ( EFM301 THRU EFM307 )

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

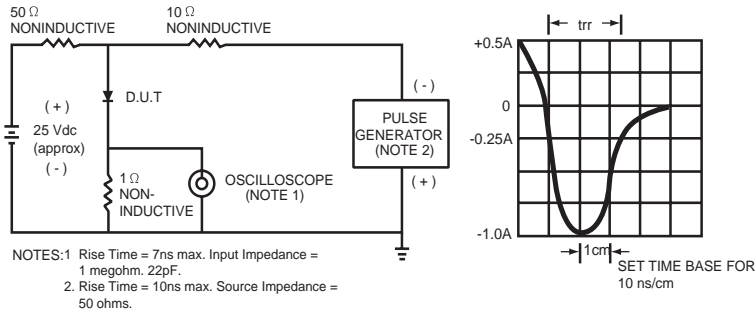


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

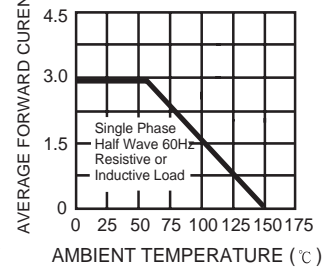


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

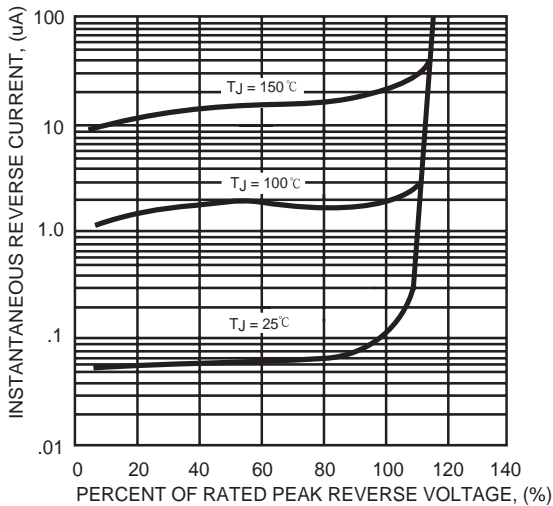


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

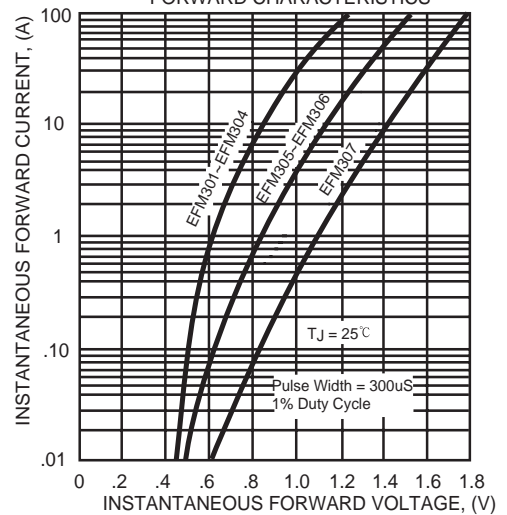


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

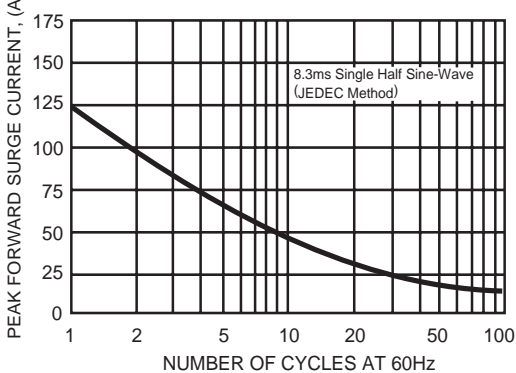
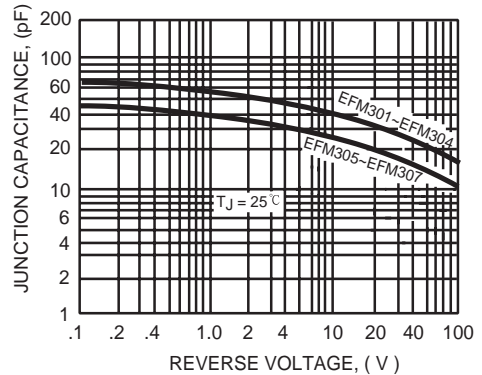
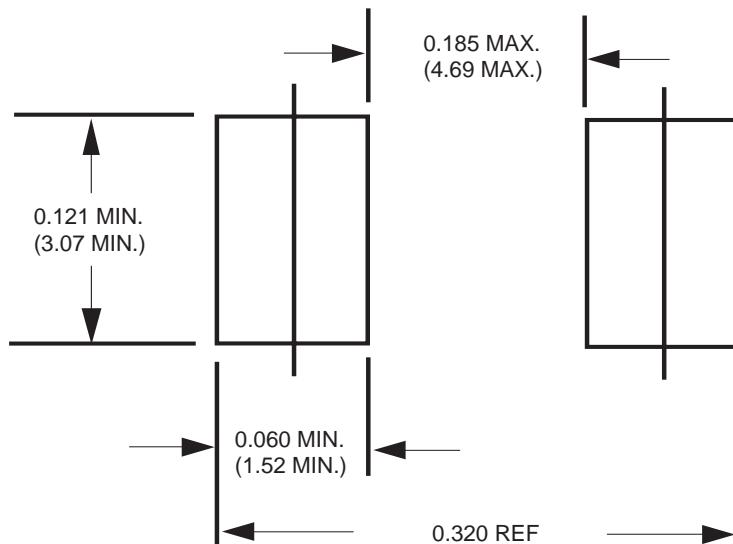


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



## Mounting Pad Layout



Dimensions in inches and (millimeters)