

**SURFACE MOUNT GLASS PASSIVATED  
SUPER FAST SILICON RECTIFIER  
VOLTAGE RANGE 50 to 600 Volts CURRENT 1.0 Ampere**

**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction

**MECHANICAL DATA**

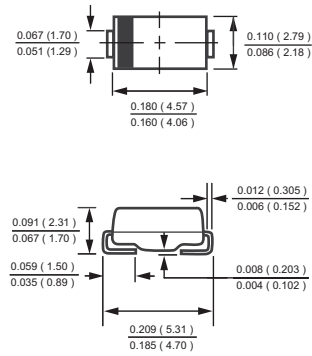
- \* Epoxy : Device has UL flammability classification 94V-0
- \* Mounting position: Any
- \* Weight: 0.057 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Resistive or inductive load.



**DO-214AC**



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

RATINGS	SYMBOL	EFM101	EFM102	EFM103	EFM104	EFM105	EFM106	EFM107	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at $T_A = 55^\circ\text{C}$	$I_O$	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amps
Typical Current Square Time	$i^2t$	3.7							A <sup>2</sup> S
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	85							°C/W
	$R_{\theta JL}$	35							
Typical Junction Capacitance (Note 2)	$C_J$	10							pF
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150							°C

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

CHARACTERISTICS	SYMBOL	EFM101	EFM102	EFM103	EFM104	EFM105	EFM106	EFM107	UNITS
Maximum Instantaneous Forward Voltage at 1.0ADC	$V_F$	0.95			1.25		1.50		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	@ $T_A = 25^\circ\text{C}$							μAmps
		@ $T_A = 150^\circ\text{C}$							mAmps
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	35						50	nSec

- NOTES : 1. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = -1.0\text{A}$ ,  $I_{RR} = -0.25\text{A}$   
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts  
 3. Thermal Resistance : Mounted on PCB.

# RATING AND CHARACTERISTICS CURVES ( EFM101 THRU EFM107 )

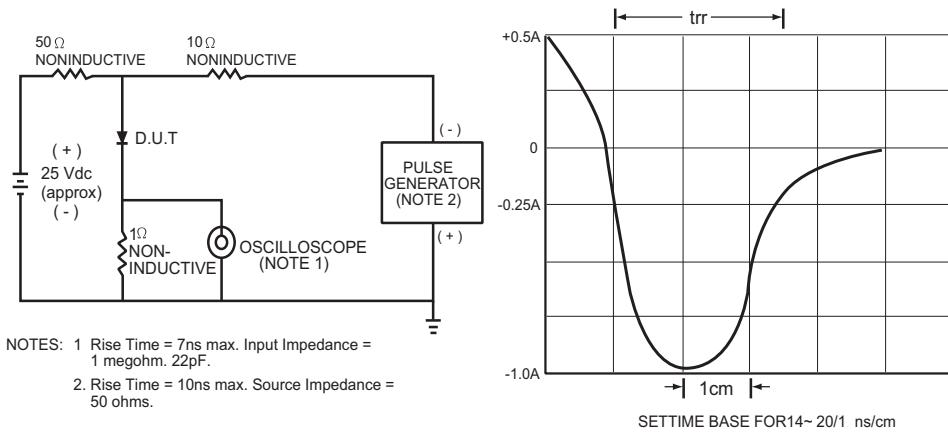


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

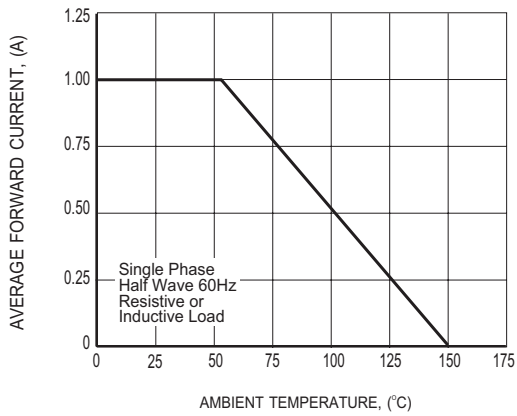


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

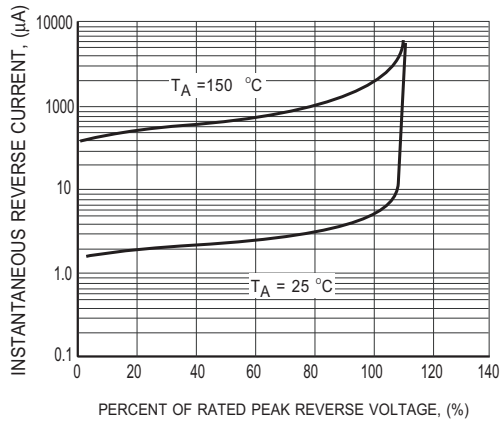
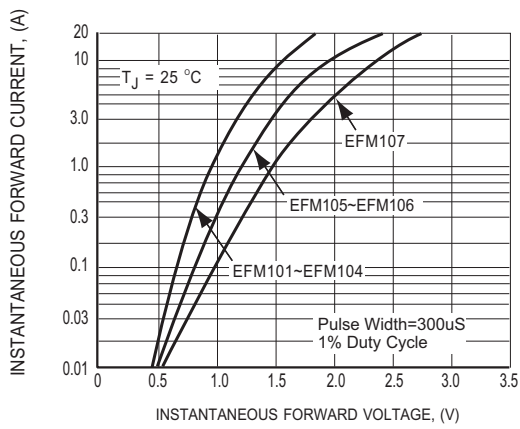
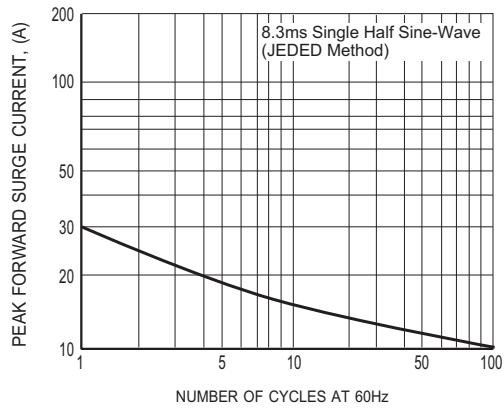


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

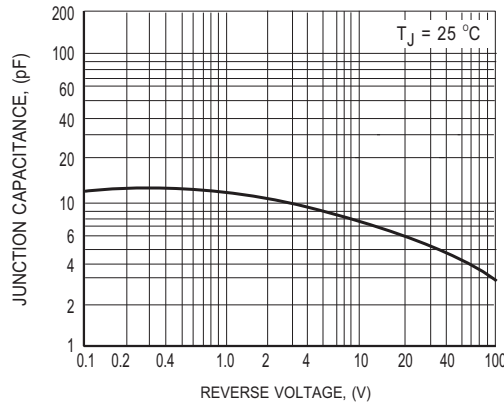
## RATING AND CHARACTERISTICS CURVES ( EFM101 THRU EFM107 )



**FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**

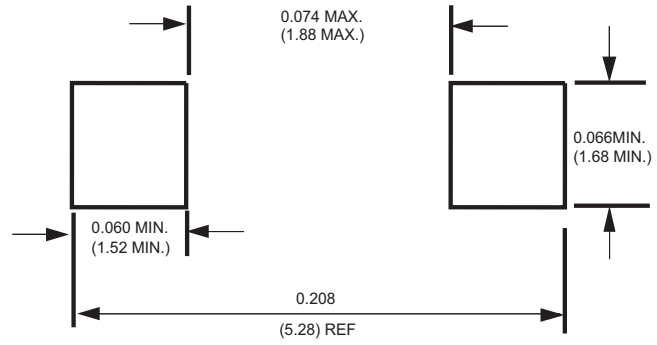


**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

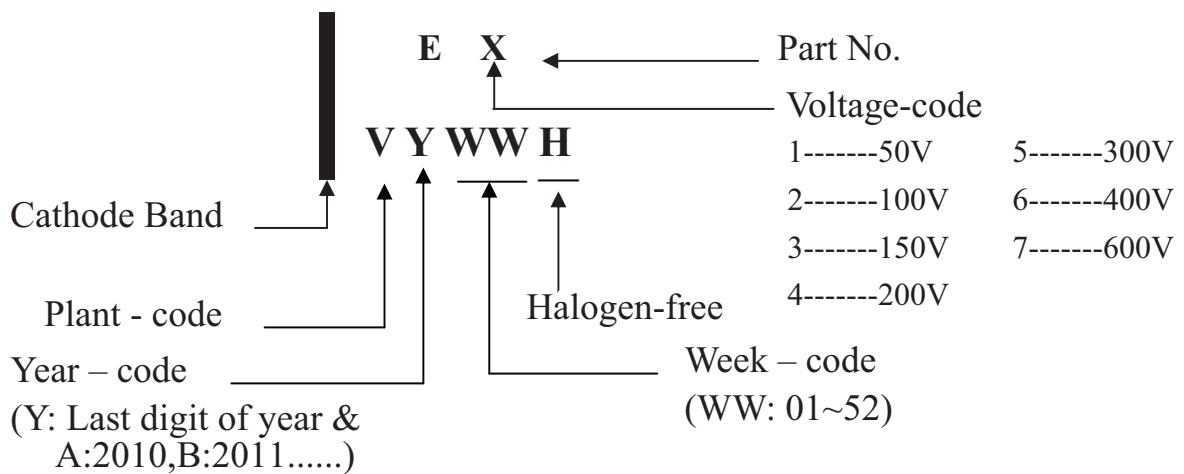


## Attachment information about EFM10X

### 1. Internal Circuit



### 2. Marking on the body





## **Attachment information about EFM10X**

### **4. Items marked on the reel box and carton**

#### **4.1 On the reel (for -T & -W)**

**CUSTOMER**

**TYPE**

**QUANTITY**

**LOT NO.**

**Q.A.**

**REMARK**

#### **4.2 On the box (for -T & -W)**

**TYPE**

**QUANTITY**

**LOT NO.**

**Q.A.**

#### **4.3 On the carton**

**CUSTOMER**

**TYPE**

**QUANTITY**

**LOT NO.**

**REMARK**

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMA	-W	7,500	15,000	---	---	330	360*355*360	120,000	15.2

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMA	-T	2,000	8,000	---	---	178	390*205*310	64,000	7.8

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