

**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**

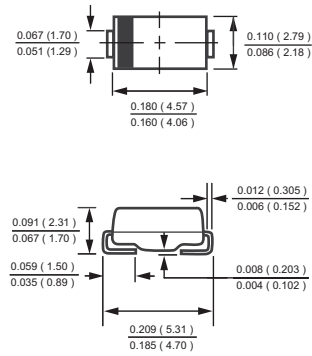
- \* Epoxy : Device has UL flammability classification 94V-0
- \* Mounting position: Any
- \* Weight: 0.057 gram

**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 | $I_R$    | @ $T_A = 25^\circ\text{C}$  |        |        |        |        |        |        | $\mu\text{Amps}$ |
|   |          | @ $T_A = 150^\circ\text{C}$ |        |        |        |        |        |        | 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 )

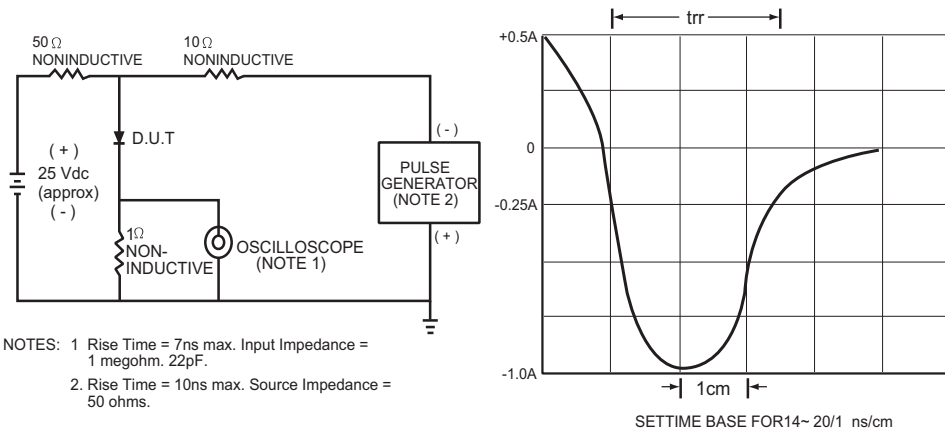


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

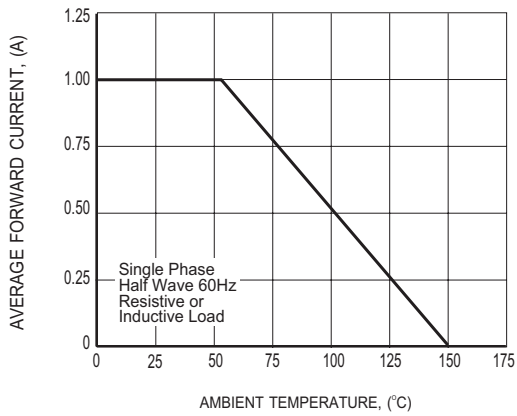


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

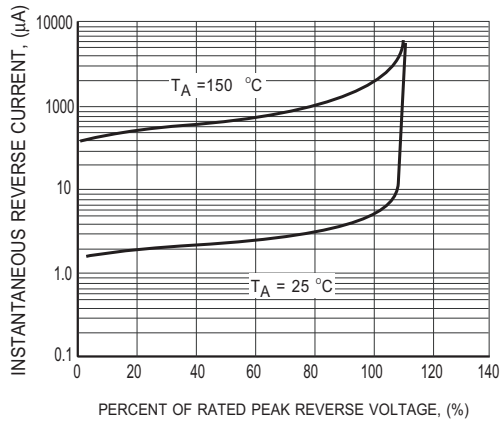


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

## RATING AND CHARACTERISTICS CURVES ( EFM101 THRU EFM107 )

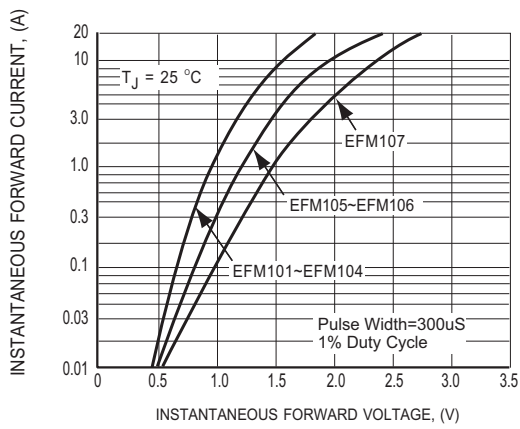


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

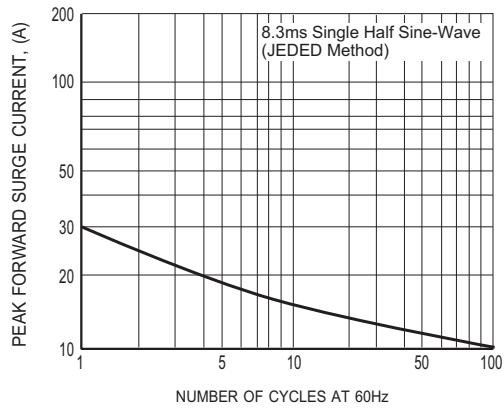


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

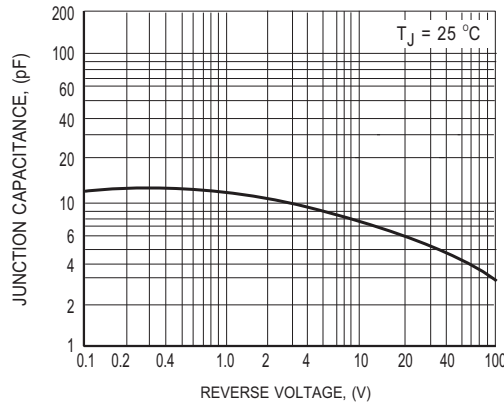
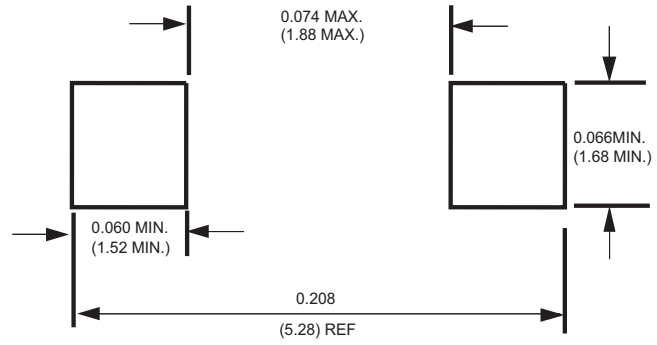


FIG.6 TYPICAL JUNCTION CAPACITANCE

## Mounting Pad Layout



Dimensions in inches and (millimeters)

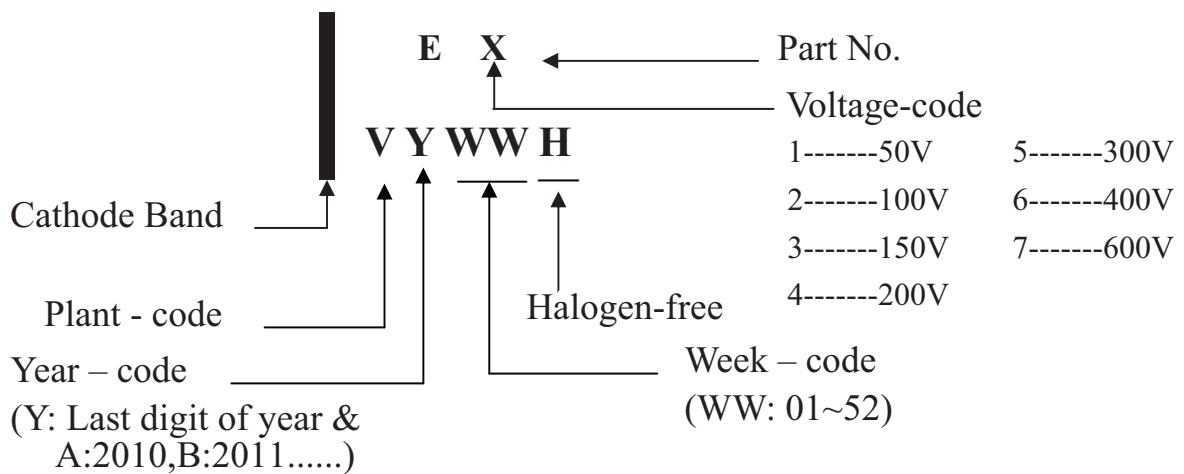


## Attachment information about EFM10X

### 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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