

**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
- \* Mounting position: Any
- \* Weight: 0.015 gram

**MECHANICAL DATA**

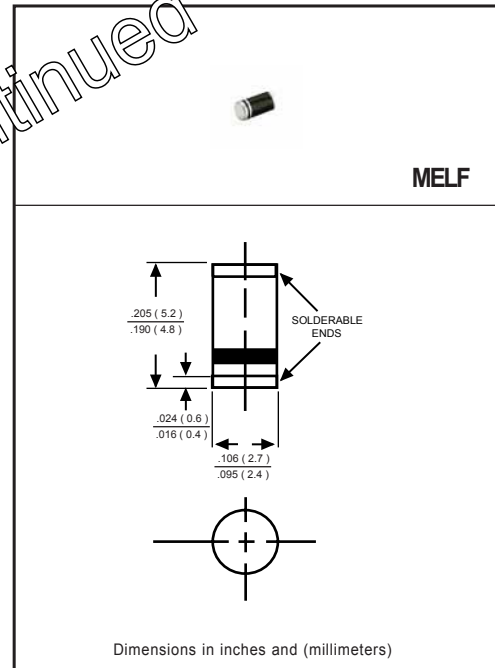
- \* Epoxy : Device has UL flammability classification 94V-0

**DISCONTINUED-**

"This series is replaced by the EFM10X series that meets to the same fit and function parameters and share the same solder pad layout. The EFM10X series is preferred for error-free vacuum pick-up and PCB assembly."

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

| RATINGS                                                                                              | SYMBOL                            | ESM101       | ESM102 | ESM103 | ESM104 | ESM105 | ESM106 | ESM107 | UNITS |
|------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | V <sub>RRM</sub>                  | 50           | 100    | 150    | 200    | 300    | 400    | 600    | Volts |
| Maximum RMS Voltage                                                                                  | V <sub>RMS</sub>                  | 35           | 70     | 105    | 140    | 210    | 280    | 420    | Volts |
| Maximum DC Blocking Voltage                                                                          | V <sub>DC</sub>                   | 50           | 100    | 150    | 200    | 300    | 400    | 600    | Volts |
| Maximum Average Forward Rectified Current<br>at T <sub>A</sub> = 55°C                                | I <sub>O</sub>                    | 1.0          |        |        |        |        |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                  | 30           |        |        |        |        |        |        | Amps  |
| Typical Junction Capacitance (Note 2)                                                                | C <sub>J</sub>                    | 15           |        |        |        | 10     |        |        | pF    |
| Operating and Storage Temperature Range                                                              | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |        |        |        |        |        |        | °C    |

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

| CHARACTERISTICS                                            |                         | SYMBOL          | ESM101 | ESM102 | ESM103 | ESM104 | ESM105 | ESM106 | ESM107 | UNITS |
|------------------------------------------------------------|-------------------------|-----------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC           |                         | V <sub>F</sub>  | 0.95   |        |        |        | 1.25   |        | 1.50   | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage | @T <sub>A</sub> = 25°C  | I <sub>R</sub>  | 5.0    |        |        |        |        |        |        | uAmps |
|                                                            | @T <sub>A</sub> = 100°C |                 | 100    |        |        |        |        |        |        |       |
| Maximum Reverse Recovery Time (Note 1)                     |                         | t <sub>rr</sub> | 35     |        |        |        |        |        | 50     | nSec  |

NOTES : 1. Reverse Recovery Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1.0A, I<sub>RR</sub> = -0.25A  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts  
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

# RATING AND CHARACTERISTICS CURVES ( ESM101 THRU ESM107 )

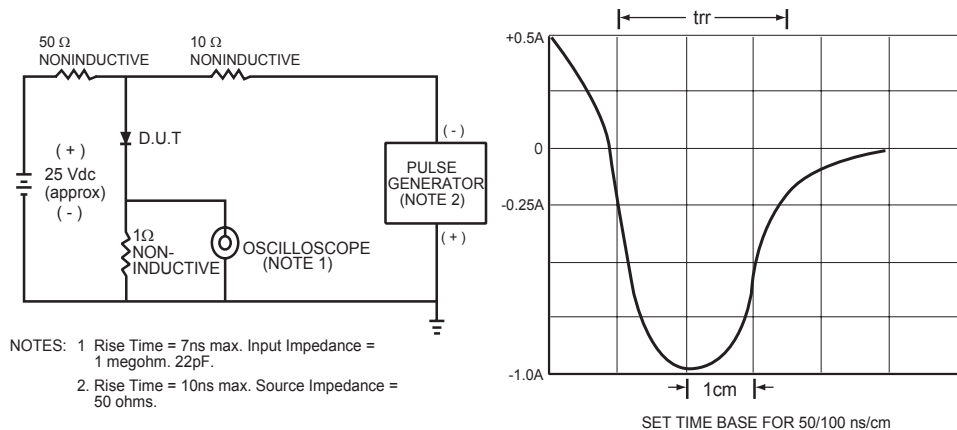


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

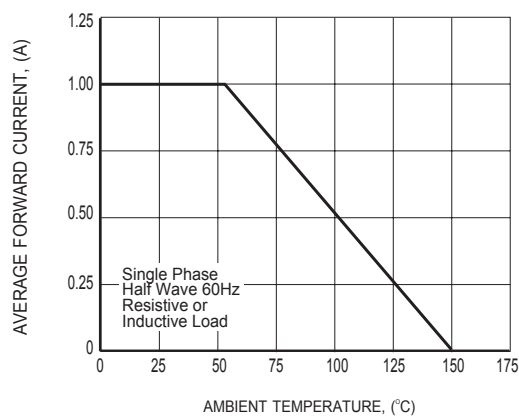


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

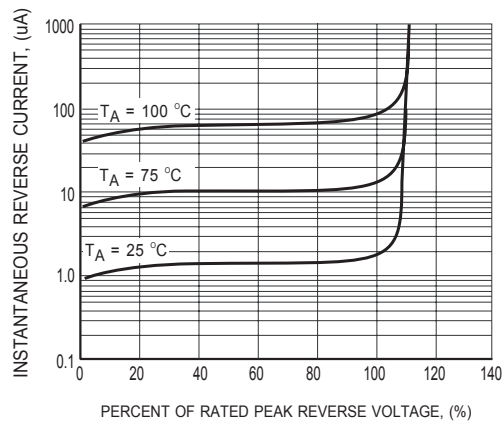


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES ( ESM101 THRU ESM107 )

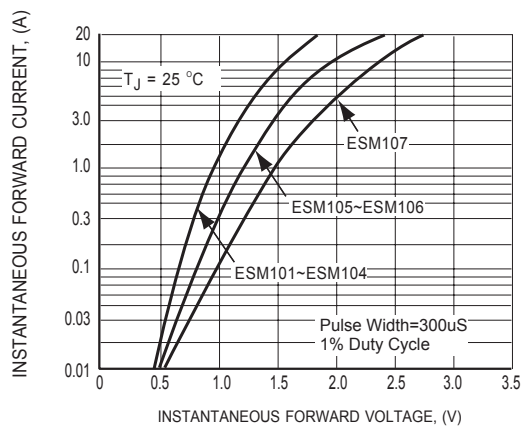


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

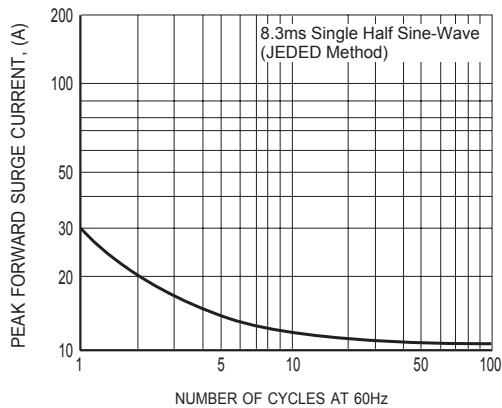


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

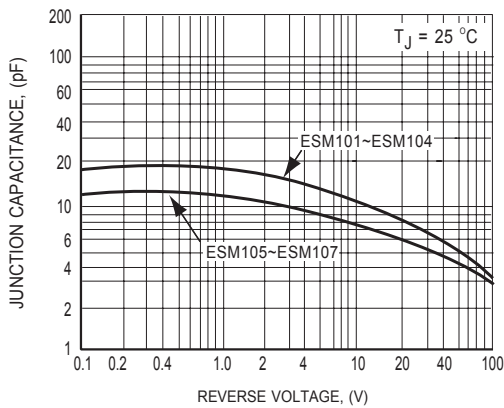
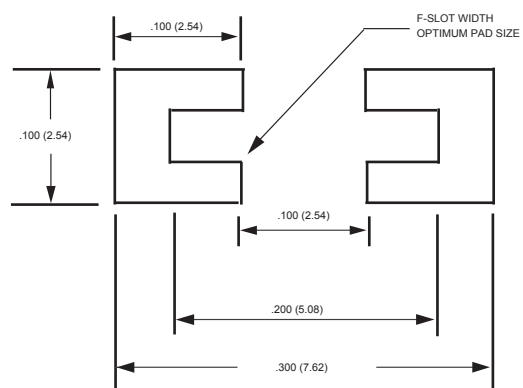


FIG.6 TYPICAL JUNCTION CAPACITANCE

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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