

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

**FEATURES**

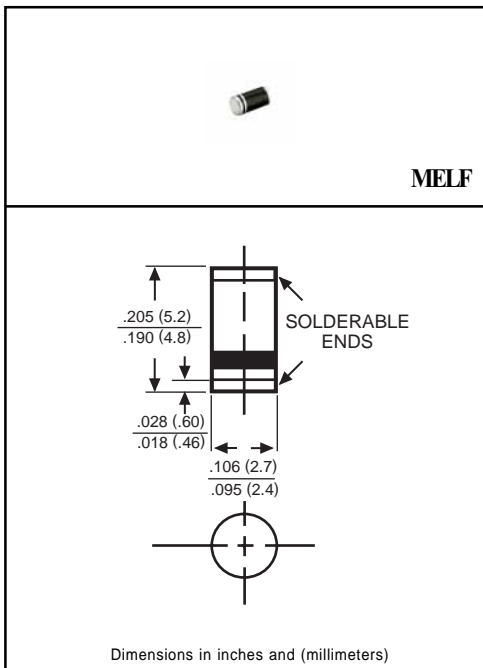
- \* Fast switching
- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.015 gram

**MECHANICAL DATA**

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

**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   | HSM101       | HSM102 | HSM103 | HSM104 | HSM105 | HSM106 | UNITS |
|---|----------|--------------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 50           | 100    | 200    | 300    | 400    | 600    | Volts |
| Maximum RMS Volts   | VRMS     | 35           | 70     | 140    | 210    | 280    | 420    | Volts |
| Maximum DC Blocking Voltage   | Vdc      | 50           | 100    | 200    | 300    | 400    | 600    | Volts |
| Maximum Average Forward Current at TA = 50°C  | Io       | 1.0          |        |        |        |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 30           |        |        |        |        |        | Amps  |
| Typical Junction Capacitance (Note 2)   | CJ       | 15           |        |        |        | 12     |        | pF    |
| Operating and Storage Temperature Range   | TJ, TSTG | -65 to + 175 |        |        |        |        |        | °C    |

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

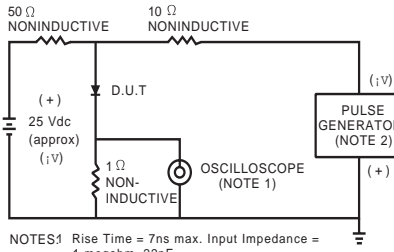
| CHARACTERISTICS  | SYMBOL | HSM101 | HSM102 | HSM103 | HSM104 | HSM105 | HSM106 | UNITS |
|--|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC   | VF     | 1.0    |        |        | 1.3    |        | 1.70   | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C                            | IR     | 5.0    |        |        |        |        |        | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 55°C |        | 100    |        |        |        |        |        | uAmps |
| Maximum Reverse Recovery Time (Note 1)   | trr    | 50     |        |        |        | 75     |        | 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.

# RATING AND CHARACTERISTIC CURVES ( HSM101 THRU HSM106 )

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



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

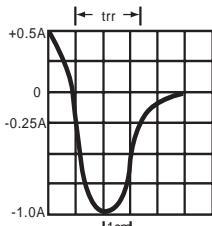


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

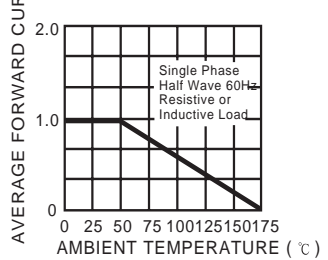


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

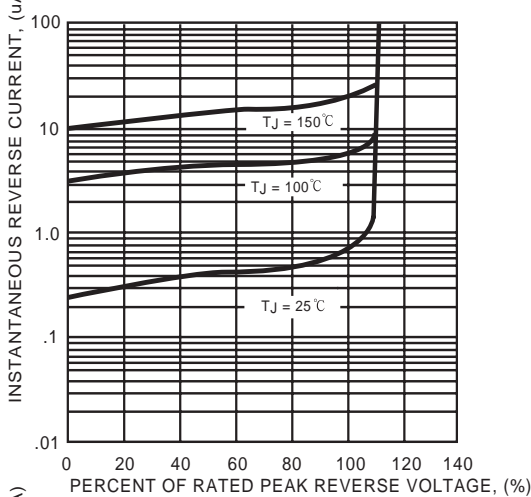


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

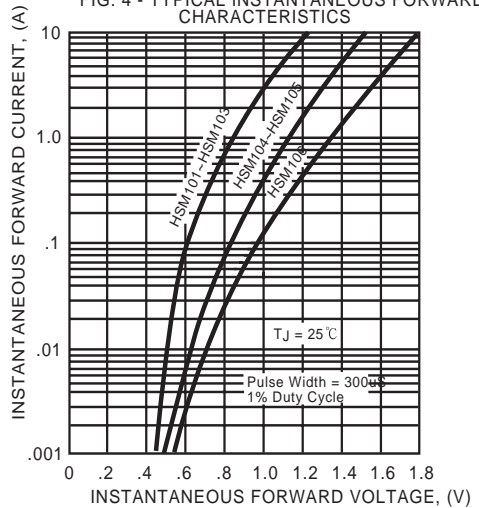


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

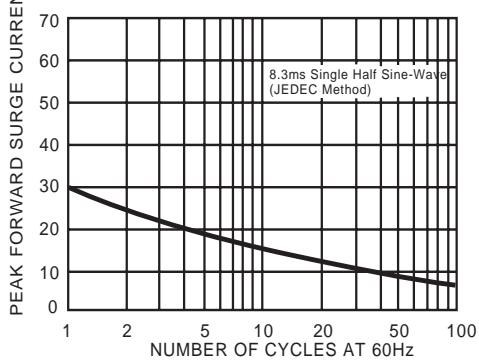


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

