

**SURFACE MOUNT GLASS PASSIVATED  
HIGH EFFICIENCY SILICON RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 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

**DATA MECHANICAL**

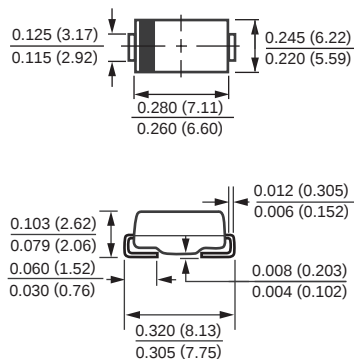
- \* Epoxy : Device has UL flammability classification 94V-0

**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%.



**DO-214AB**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

| RATINGS                                                                                              | SYMBOL         | HFM301       | HFM302 | HFM303 | HFM304 | HFM305 | HFM306 | HFM307 | HFM308 | UNITS       |
|------------------------------------------------------------------------------------------------------|----------------|--------------|--------|--------|--------|--------|--------|--------|--------|-------------|
| Maximum Recurrent Peak Reverse Voltage                                                               | $V_{RRM}$      | 50           | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | Volts       |
| Maximum RMS Volts                                                                                    | $V_{RMS}$      | 35           | 70     | 140    | 210    | 280    | 420    | 560    | 700    | Volts       |
| Maximum DC Blocking Voltage                                                                          | $V_{DC}$       | 50           | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | Volts       |
| Maximum Average Forward Current<br>at $T_A = 50^{\circ}C$                                            | $I_o$          | 3.0          |        |        |        |        |        |        |        | Amps        |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | $I_{FSM}$      | 200          |        |        |        |        | 150    |        |        | Amps        |
| Typical Junction Capacitance (Note 2)                                                                | $C_j$          | 70           |        |        |        |        | 50     |        |        | pF          |
| Operating and Storage Temperature Range                                                              | $T_J, T_{STG}$ | -65 to + 175 |        |        |        |        |        |        |        | $^{\circ}C$ |

**ELECTRICAL CHARACTERISTICS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

| CHARACTERISTICS                                                            |                          | SYMBOL          | HFM301 | HFM302 | HFM303 | HFM304 | HFM305 | HFM306 | HFM307 | HFM308 | UNITS |
|----------------------------------------------------------------------------|--------------------------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Forward Voltage at 3.0A DC                                         |                          | V <sub>F</sub>  | 1.0    |        |        | 1.3    |        | 1.7    |        |        | Volts |
| Maximum Full Load Reverse Current, Full cycle Average T <sub>A</sub> =55°C |                          | I <sub>R</sub>  | 50     |        |        |        |        |        |        |        | μAmps |
| Maximum DC Reverse Current at                                              | @ T <sub>A</sub> = 25°C  |                 | 10     |        |        |        |        |        |        |        | μAmps |
| Rated DC Blocking Voltage                                                  | @ T <sub>A</sub> = 125°C |                 | 150    |        |        |        |        |        |        |        | μAmps |
| Maximum Reverse Recovery Time (Note 1)                                     |                          | t <sub>rr</sub> | 50     |        |        |        |        | 75     |        |        | nSec  |

NOTES : 1. Test Conditions:  $I_F=0.5A$ ,  $I_R=-1.0A$ ,  $I_{RR}=-0.25A$ .

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

## RATING AND CHARACTERISTIC CURVES ( HFM301 THRU HFM308 )

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

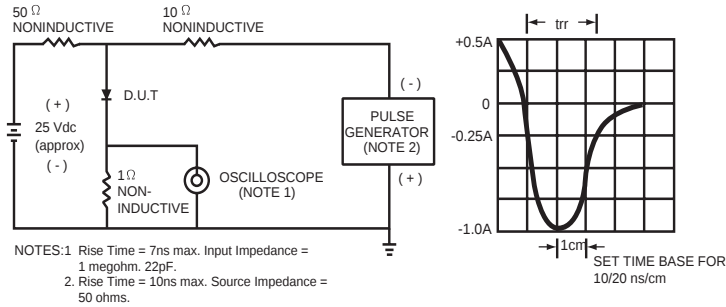


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

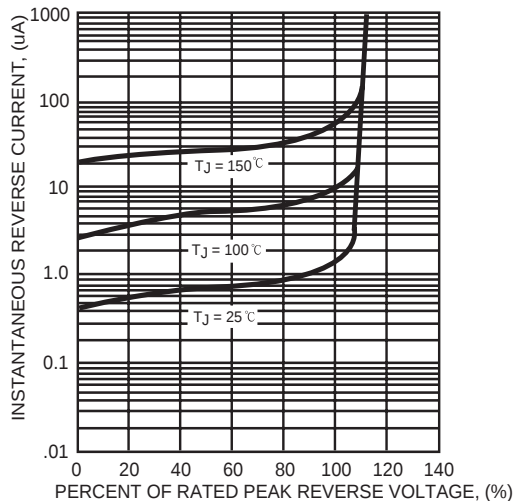


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

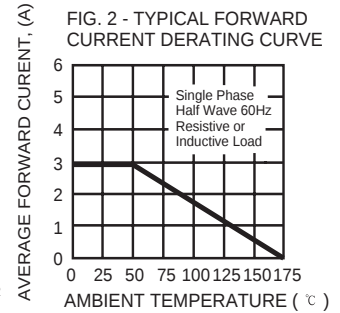
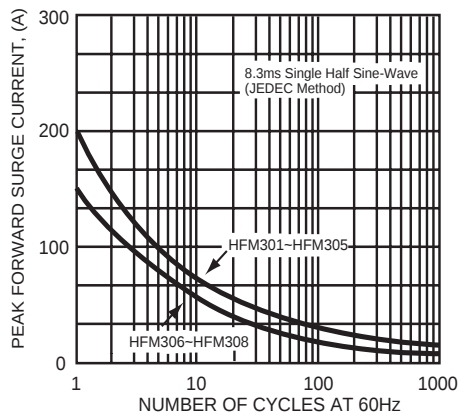


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

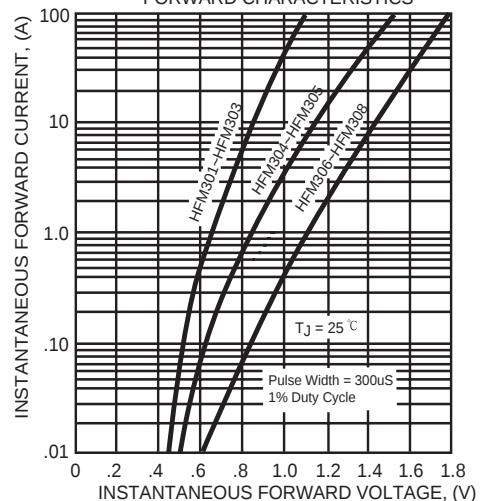
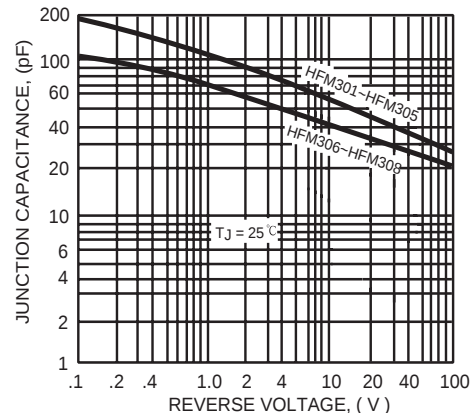
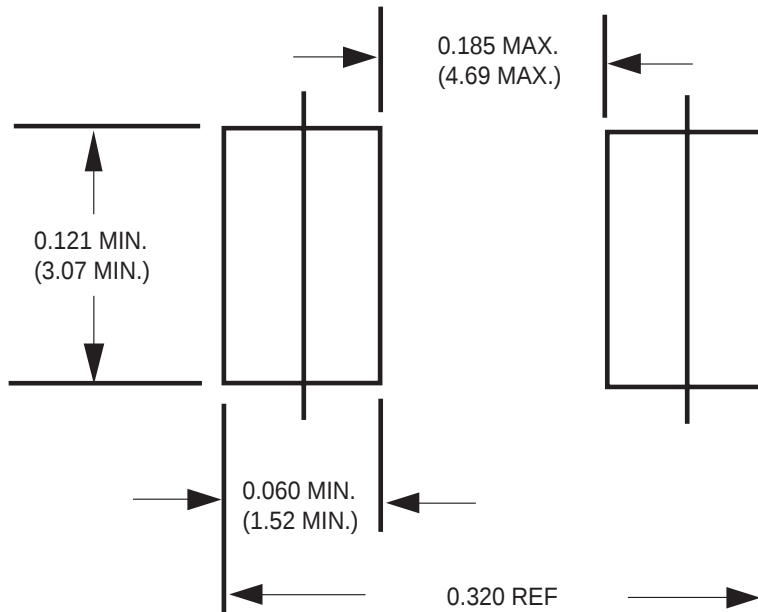


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



## Mounting Pad Layout



Dimensions in inches and (millimeters)