# CHENMKO ENTERPRISE CO.,LTD

## MINIATURE GLASS PASSIVATED

SINGLE-PHASE SURFACE MOUNT BRIDGE RECTIFIER

VOLTAGE RANGE 50 - 200 Volts  CURRENT 0.5 Ampere

**HMB11PT**

**THRU**

**HMB13PT**

Lead free devices

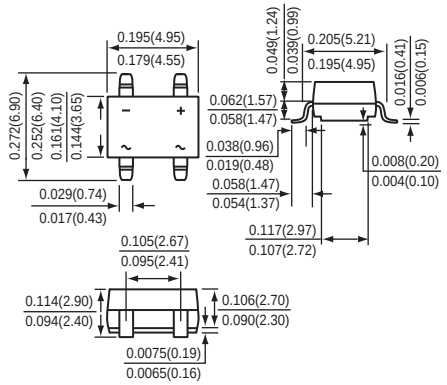
### FEATURES

* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
* Surge overload rating of 35 Amperes peak
* Glass passivated chip junction
* Ideal for printed circuit board
* High temperature soldering guaranteed : 260°C/10 seconds at terminals

MD-S

### MECHANICAL DATA

**Case:** JEDEC MD-S molded plastic
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
**Polarity:** Polarity syHMBols marked on body
**Weight:** 0.008 ounces, 0.22 gram




Dimensions in inches and (millimeters)

MD-S

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C aHMBient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

**MAXIMUM RATINGES** ( At $T_A$ = 25°C unless otherwise noted )

| RATINGS | SYHMBOL | HMB11PT | HMB12PT | HMB13PT | UNITS |
|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | Volts |
| Maximum Average Forward Rectified Current $T_A$ = 30°C<br>On glass-epoxy P.C.B.(NOTE 1)<br>On aluminum substrate (NOTE 2) | $I_O$ | 0.5 | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 30 | | | Amps |
| Maximum Reverse Recovery Time | $T_{RR}$ | 50 | | | nSec |
| Typical Junction Capacitance (Note 3) | $C_J$ | 10 | | | pF |
| Typical thermal resistance per leg | $R_{\theta JA}$ | 85 | | | °C / W |
| Operating and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to +150 | | | °C |

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

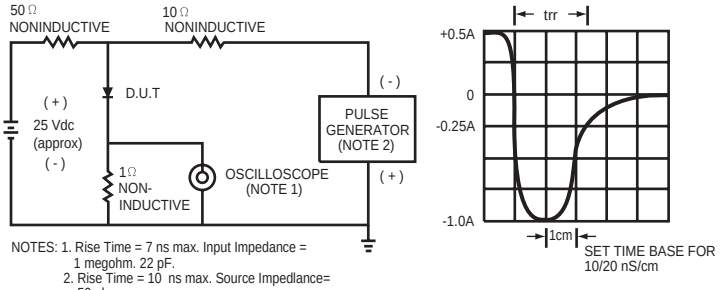
| CHARACTERISTICS | | SYHMBOL | HMB11PT | HMB12PT | HMB13PT | UNITS |
|---|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage at 0.5 A DC | | $V_F$ | 1.1 | | | Volts |
| Maximum DC reverse current at rated DC blocking voltage per leg | @ $T_A$ = 25°C | $I_R$ | 5.0 | | | uAmps |
| | @ $T_A$ = 100°C | | 200 | | | uAmps |

2002-9

NOTES : 1. On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.27 X 1.27 mm) pads
2. On aluminum substrate P.C.B. with an area of 0.8 x 0.8 x 0.25" (20 x 20 x 6.4mm) mounted on 0.05 x 0.05" (1.27 x 1.27mm) solder pad
3. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts

# RATING CHARACTERISTIC CURVES ( HMB11PT THRU HMB13PT )

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




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

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

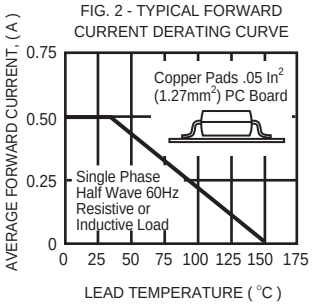



FIG. 3 - TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

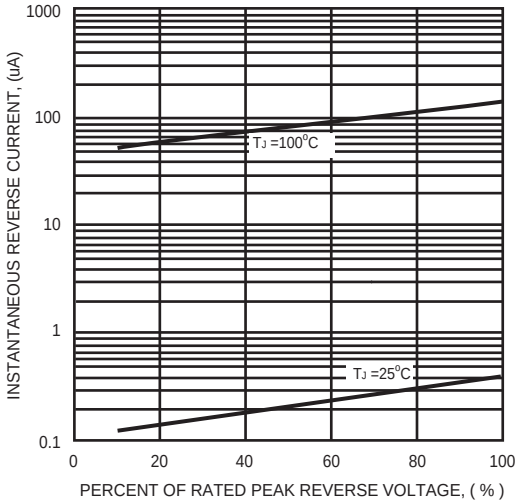



FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

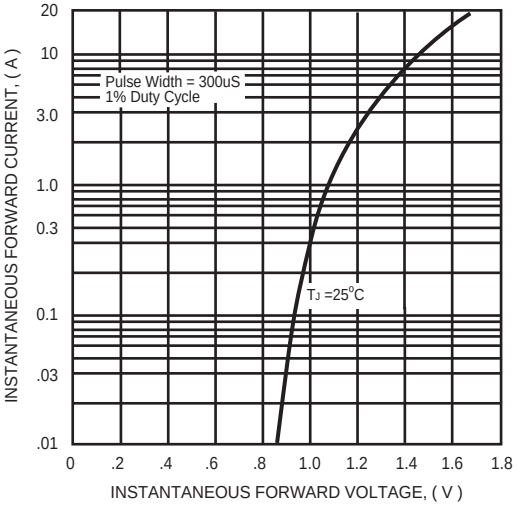



FIG. 5 - TYPICAL JUNCTION CAPACITANCE

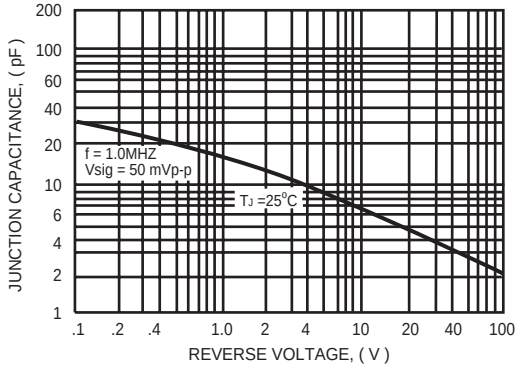



FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER BRIDGE ELEMENT