

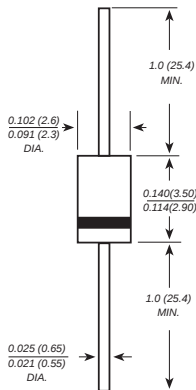


# 1H1THRU 1H8

## HIGH EFFICIENCY RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current -1.0 Ampere

### R-1



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ High speed switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** R-1 molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.007 ounce, 0.20 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| MDD Catalog Number                                                                                              | SYMBOLS                          | 1H1          | 1H2 | 1H3 | 1H4 | 1H5 | 1H6  | 1H7 | 1H8  | UNITS |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------|--------------|-----|-----|-----|-----|------|-----|------|-------|
| Maximum repetitive peak reverse voltage                                                                         | V <sub>RRM</sub>                 | 50           | 100 | 200 | 300 | 400 | 600  | 800 | 1000 | VOLTS |
| Maximum RMS voltage                                                                                             | V <sub>RMS</sub>                 | 35           | 70  | 140 | 210 | 280 | 420  | 560 | 700  | VOLTS |
| Maximum DC blocking voltage                                                                                     | V <sub>DC</sub>                  | 50           | 100 | 200 | 300 | 400 | 600  | 800 | 1000 | VOLTS |
| Maximum average forward rectified current<br>0.375”(9.5mm) lead length at T <sub>A</sub> =25°C                  | I <sub>(AV)</sub>                | 1.0          |     |     |     |     |      |     |      | Amps  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)          | I <sub>FSM</sub>                 | 25.0         |     |     |     |     |      |     |      | Amps  |
| Maximum instantaneous forward voltage at 1.0A                                                                   | V <sub>F</sub>                   | 1.0          |     |     | 1.3 |     | 1.70 |     |      | Volts |
| Maximum DC reverse current      T <sub>A</sub> =25°C<br>at rated DC blocking voltage      T <sub>A</sub> =100°C | I <sub>R</sub>                   | 5.0<br>100.0 |     |     |     |     |      |     |      | µA    |
| Maximum reverse recovery time      (NOTE 1)                                                                     | t <sub>rr</sub>                  | 50           |     |     |     |     | 70   |     |      | ns    |
| Typical junction capacitance (NOTE 2)                                                                           | C <sub>J</sub>                   | 15.0         |     |     |     |     | 12.0 |     |      | pF    |
| Typical thermal resistance (NOTE 3)                                                                             | R <sub>θJA</sub>                 | 50.0         |     |     |     |     |      |     |      | °C/W  |
| Operating junction and storage temperature range                                                                | T <sub>J</sub> ,T <sub>STG</sub> | -65 to +150  |     |     |     |     |      |     |      | °C    |

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

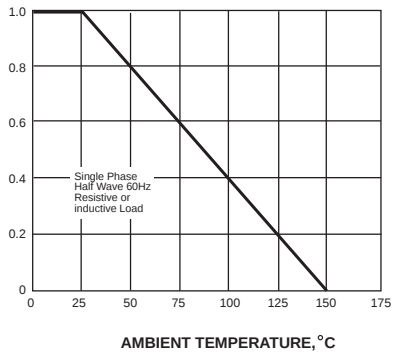
3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

**MDD ELECTRONIC**

# RATINGS AND CHARACTERISTIC CURVES 1H1 THRU 1H8

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

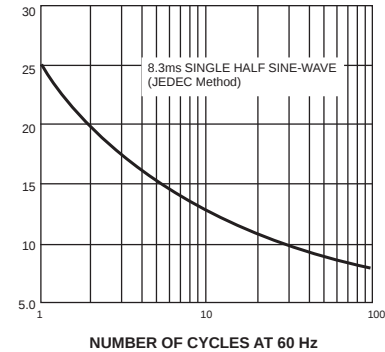
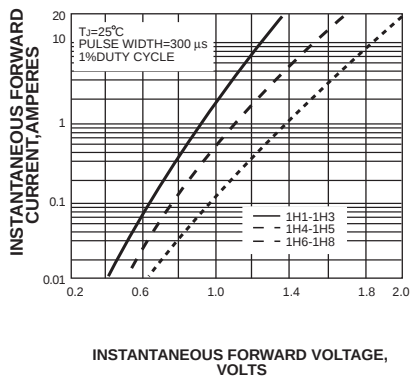


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

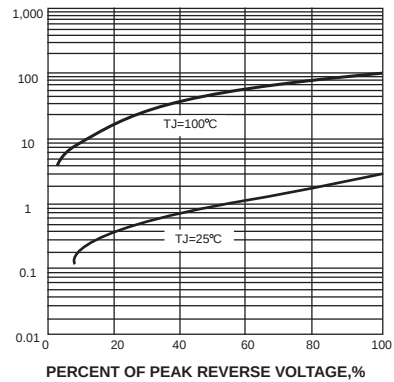
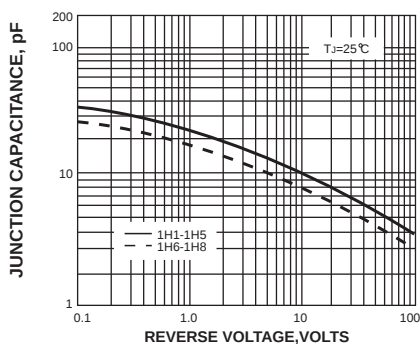


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

