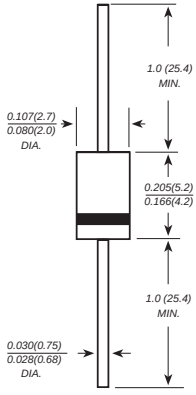
GAIA TECH

# HER101 THRU HER108

## HIGH EFFICIENCY RECTIFIER

**DO-41**




*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**: JEDEC DO-41 molded plastic body
**Terminals**: Plated axial leads, solderable per MIL-STD-750, Method 2026
**Polarity**: Color band denotes cathode end
**Mounting Position**: Any
**Weight**:0.012 ounce, 0.34 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%.

| | SYMBOLS | HER 101 | HER 102 | HER 103 | HER 104 | HER 105 | HER 106 | HER 107 | HER 108 | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum RMS voltage | $V_{RMS}$ | 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 rectified current 0.375"(9.5mm) lead length at $T_A$=50°C | $I_{(AV)}$ | 1.0 | | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 30.0 | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | $V_F$ | 1.0 | | | 1.3 | | 1.7 | | | Volts |
| Maximum DC reverse current $T_A$=25°C<br>at rated DC blocking voltage $T_A$=100°C | $I_R$ | 5.0<br>100.0 | | | | | | | | uA |
| Maximum reverse recovery time (NOTE 1) | $t_{rr}$ | 50 | | | | | 75 | | | ns |
| Typical junction capacitance (NOTE 2) | $C_J$ | 15.0 | | | | | 12.0 | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ | 50.0 | | | | | | | | °C/W |
| Operating junction and storage temperature range | $T_J$,$T_{STG}$ | -65 to +150 | | | | | | | | °C |

**Note:**1.Reverse recovery condition $I_F$=0.5A,$I_R$=1.0A,Irr=0.25A
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

FIG. 1- FORWARD CURRENT DERATING CURVE

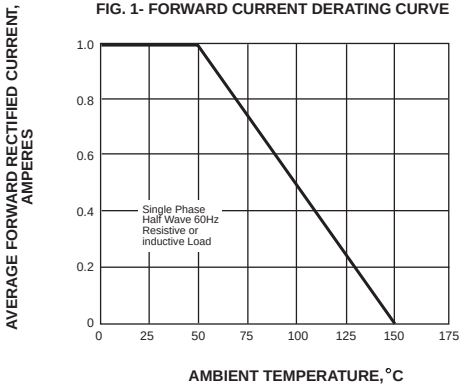



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

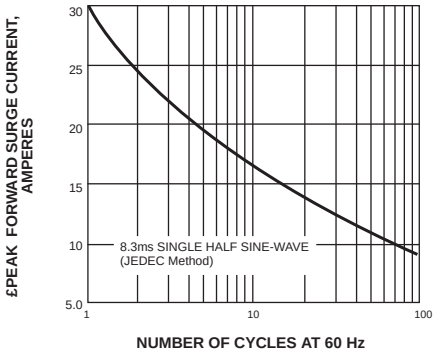



FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

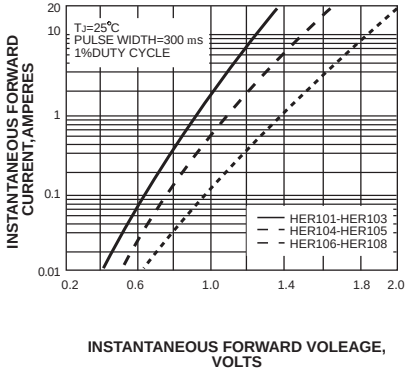



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

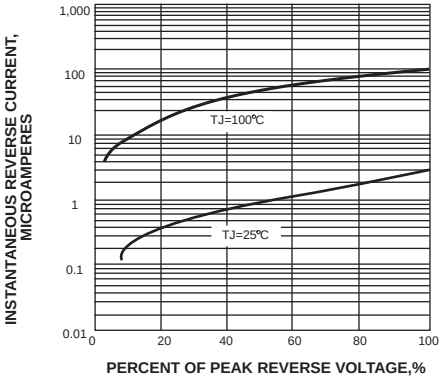



FIG. 5-TYPICAL JUNCTION CAPACITANCE

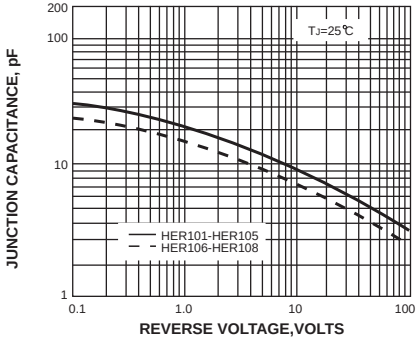



FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE