

HER301 THRU HER308

HIGH EFFICENCY RECTIFIER



康比電子
HORNBY ELECTRONIC

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 3.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Ultra Fast switching for high efficiency.
- High speed switching
- Suffix "H" indicates Halogen-free parts, ex. HER301H

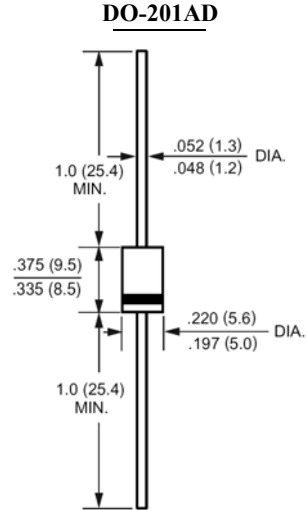
MECHANICAL DATA

Case : Molded plastic, DO-201AD

Terminals : Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity : Band denotes cathode

Mounting position : Any



Dimensions in inches and (millimeters)

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, derate current by 20%.

| Parameter | Symbols | HER301 | HER302 | HER303 | HER304 | HER305 | HER306 | HER307 | HER308 | Units | |
|---|-----------------|-------------|--------|--------|--------|--------|--------|--------|--------|-------|------|
| Maximum Recerrent 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 | |
| Maximium DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length | $I_{(AV)}$ | 3.0 | | | | | | | | Amp | |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 150.0 | | | | | | | | Amp | |
| Maximum Forward Voltage at 3.0A and $T_A=25^\circ\text{C}$ | V_F | 1.0 | | | 1.3 | | 1.85 | | | Volts | |
| Maximum Reverse Current at $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_J=100^\circ\text{C}$ | I_R | | | | | 10.0 | | | 200 | | uAmp |
| Typical Junction Capacitance (Note 1) | C_J | 70 | | | | | 50 | | | | pF |
| Maximum Reverse Recovery Time (Note 2) | T_{RR} | 50 | | | | | 75 | | | | nS |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ | 40.0 | | | | | | | | °C/W | |
| Operating and Storage Temperature Range | T_J, T_{stg} | -65 to +150 | | | | | | | | °C | |

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Reverse Recovery Test Conditions: $I_F=5A$, $I_R=1A$, $I_{RR}=25A$.

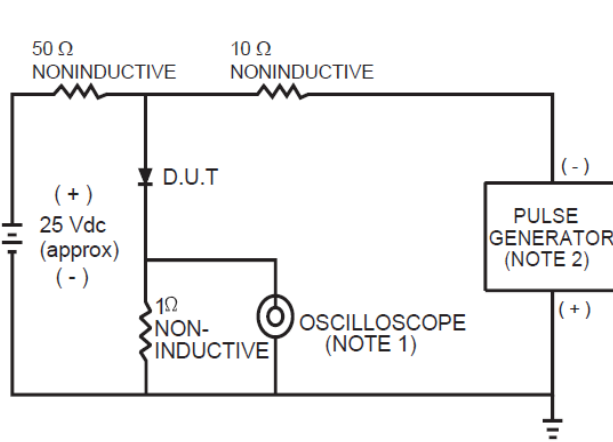
3- Thermal Resistance form junction to Ambient at 0.375"(9.5mm) lead length P.C.B. Mounted.

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RATINGS AND CHARACTERISTIC CURVES

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.

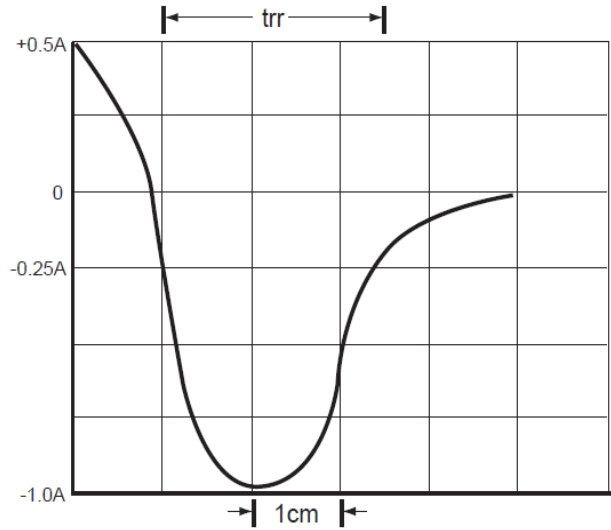


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

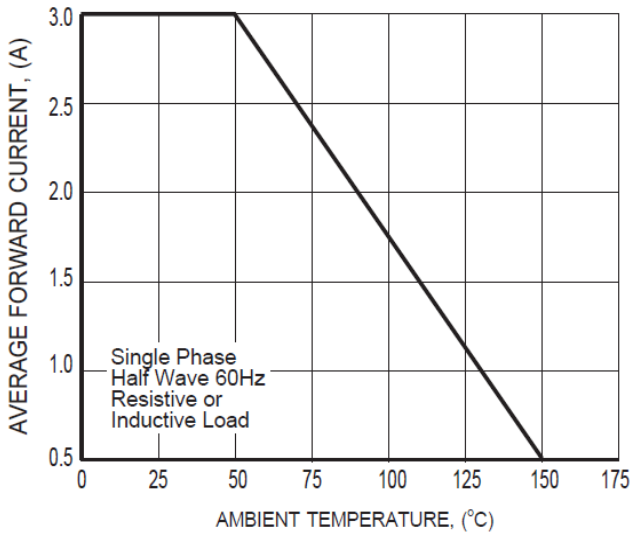


FIG.3 TYPICAL REVERSE CHARACTERISTICS

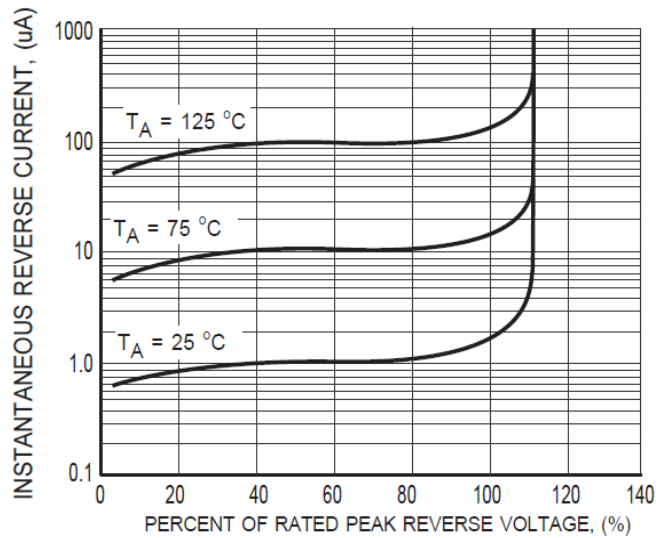


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

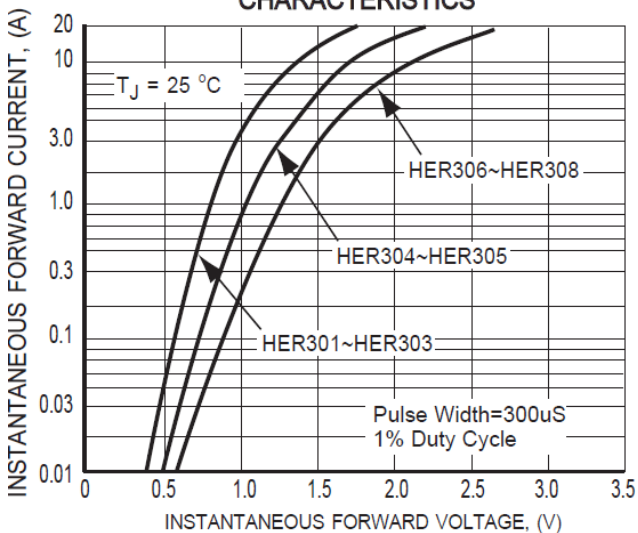


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

