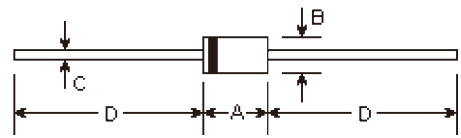
# High Efficiency Rectifiers
## Reverse Voltage 50V~1000 Volts, Forward Current 3.0 Ampers

## Features

- Low Power Loss, High Efficiency
- Low leakage
- Low forward voltage drop
- High current capability
- High speed switching
- High reliability
- High current surge

**DO-201AD**




## Mechanical Data

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD-202E method 208C guaranteed
- **Mounting Position:** Any
- **Weight:** 0.042 ounce, 1.19 grams

| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | inches | | mm | | Note |
| | Min. | Max. | Min. | Max. | |
| A | 0.283 | 0.374 | 7.20 | 9.50 | |
| B | 0.189 | 0.208 | 4.80 | 5.30 | Φ |
| C | 0.048 | 0.051 | 1.20 | 1.30 | Φ |
| D | 1.000 | - | 25.40 | - | |

## Maximum Ratings and Electrical Characteristics

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

| | Symbols | HER 301 | HER 302 | HER 303 | HER 304 | HER 305 | HER 306 | HER 307 | HER 308 | 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℃ | $I_{(AV)}$ | 3.0 | | | | | | | | Amps |
| Peak forward surge current, 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) | $I_{FSM}$ | 200.0 | | | | | 150.0 | | | Amps |
| Maximum instantaneous forward voltage at 3.0A DC | $V_F$ | 1.0 | | | 1.3 | | 1.5 | 1.7 | | Volts |
| Maximum full load reverse current average, full cycle 0.375" (9.5mm) lead length at $T_L$=55℃ | $I_{R(AV)}$ | 150.0 | | | | | | | | uA |
| Maximum DC reverse current at rated DC blocking voltage $T_A$=25℃ | $I_R$ | 10.0 | | | | | | | | uA |
| Maximum reverse recovery time (Note 1) | $T_{rr}$ | 50 | | | | | 75 | | | nS |
| Typical junction capacitance (Note 2) | $C_J$ | 70 | | | | | 50 | | | pF |
| Operating and storage temperature range | $T_J$, $T_{STG}$ | -65 to +150 | | | | | | | | ℃ |

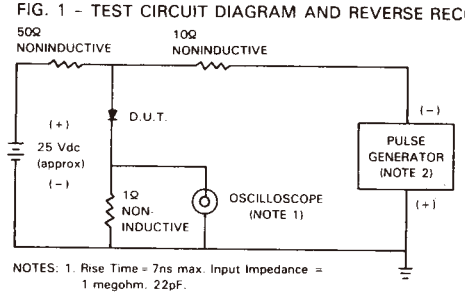
**Notes:**

(1) Test conditions: $I_F$=0.5A, $I_R$=1.0A, $I_{rr}$=0.25A

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts

## RATINGS AND CHARACTERISTIC CURVES

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



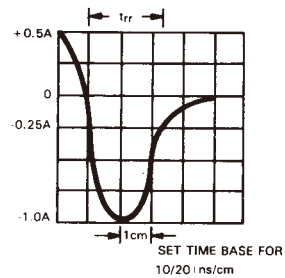




FIG. 2 – TYPICAL FORWARD CURRENT DERATING CURVE

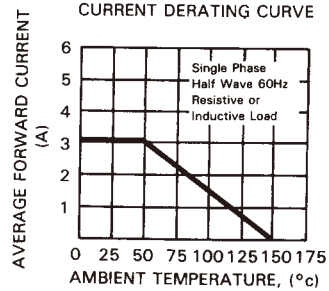



FIG. 3 – TYPICAL REVERSE CHARACTERISTICS

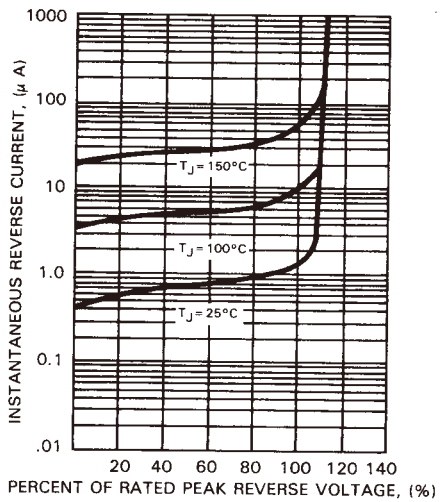



FIG. 4 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

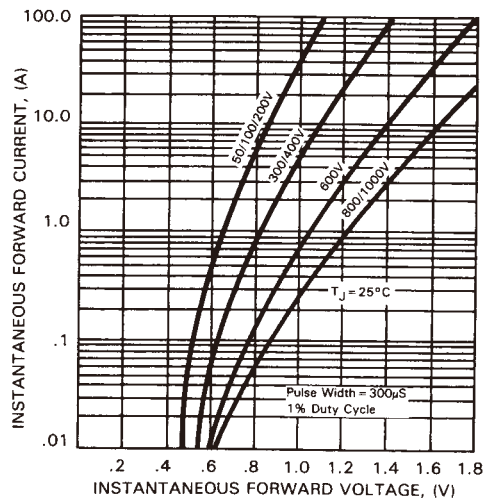



FIG. 5 – MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

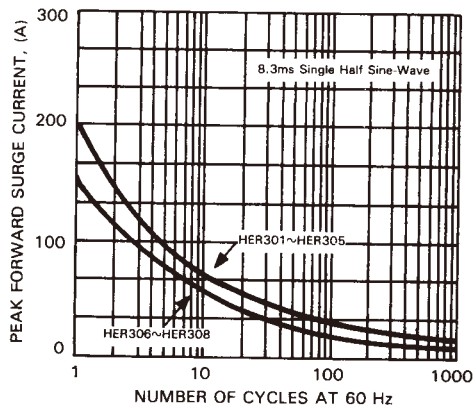



FIG. 6 – TYPICAL JUNCTION CAPACITANCE