

HIGH EFFICIENCY RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 5.0 Ampere

FEATURES

- * Low power loss, high efficiency
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High speed switching
- * High reliability
- * High current surge

MECHANICAL DATA

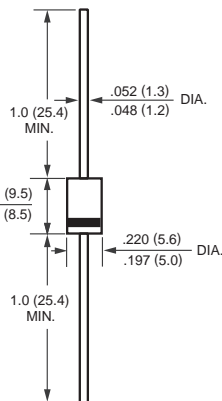
- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 1.20 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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



DO-201AD



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

| RATINGS | SYMBOL | HER501 | HER502 | HER503 | HER504 | HER505 | HER506 | HER507 | HER508 | UNITS |
|--|----------|--------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | VRMS | 35 | 70 | 140 | 210 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | VDC | 50 | 100 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current at TA= 50°C | Io | 5.0 | | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM | 200 | | | | | 150 | | | Amps |
| Typical Junction Capacitance (Note 2) | CJ | 70 | | | | | 50 | | | pF |
| Operating and Storage Temperature Range | TJ, TSTG | -55 to + 150 | | | | | | | | °C |

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS | SYMBOL | HER501 | HER502 | HER503 | HER504 | HER505 | HER506 | HER507 | HER508 | UNITS |
|---|----------------|-----------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 5.0A DC | V _F | 1.0 | | | 1.3 | | 1.7 | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C | I _R | 10 | | | | | | | | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T _L = 55°C | | 150 | | | | | | | | uAmps |
| Maximum Reverse Recovery Time (Note 1) | | t _{rr} | 50 | | | | | 75 | | nSec |

NOTES : 1. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATING AND CHARACTERISTIC CURVES (HER501 THRU HER508)

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

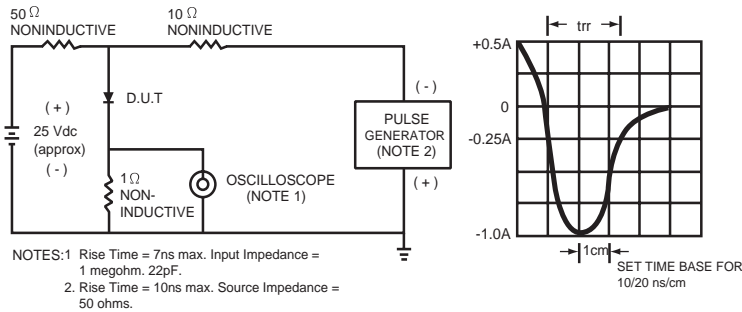


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

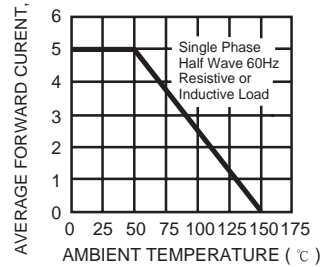


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

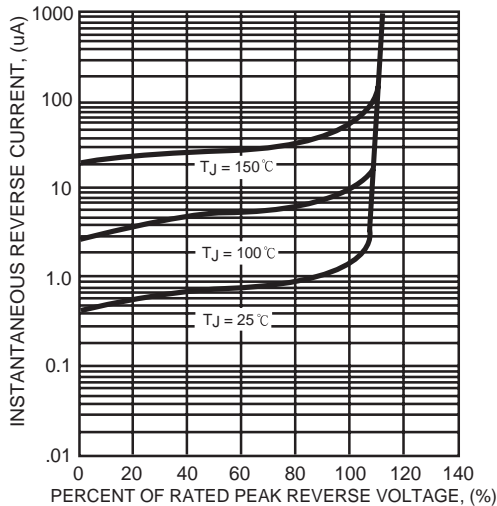


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

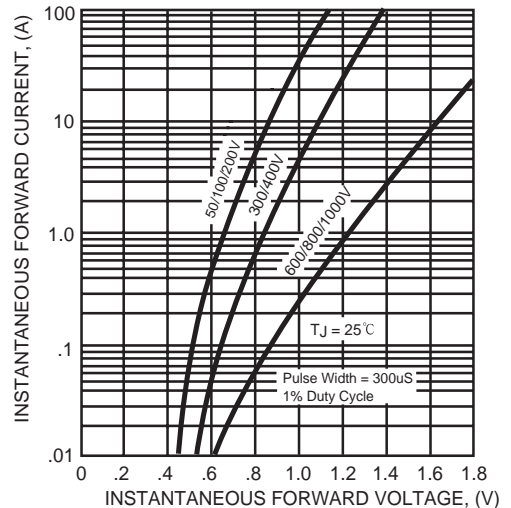


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

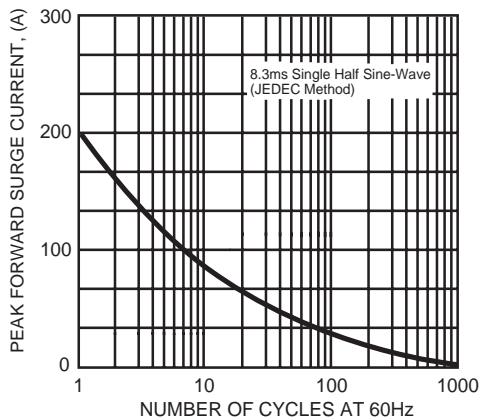


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

