

**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**

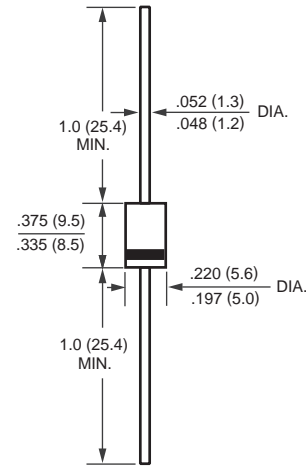
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 1.20 grams

**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	HER505P	HER506	HER507	HER508	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	300	400	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	210	280	280	420	560	700	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	300	400	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	-65 to + 150									°C

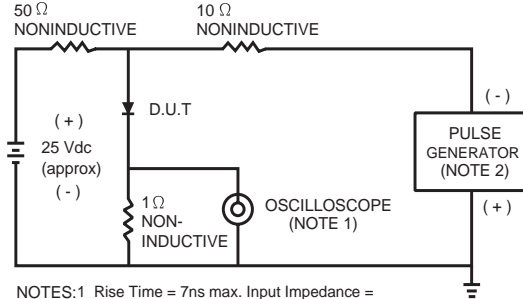
**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	HER501	HER502	HER503	HER504	HER505	HER505P	HER506	HER507	HER508	UNITS
Maximum Instantaneous Forward Voltage at 5.0A DC	VF	1.0		1.3			1.0	1.7			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C	IR	10									uAmps
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 55°C		150									uAmps
Maximum Reverse Recovery Time (Note 1)	trr	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



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm, 22pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

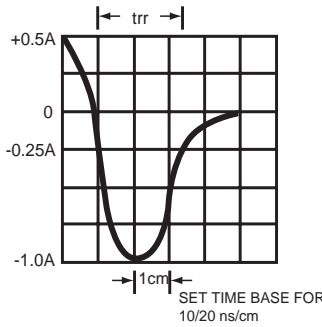


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

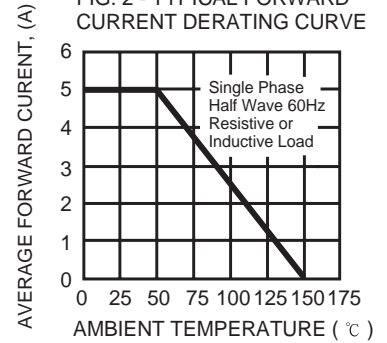


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

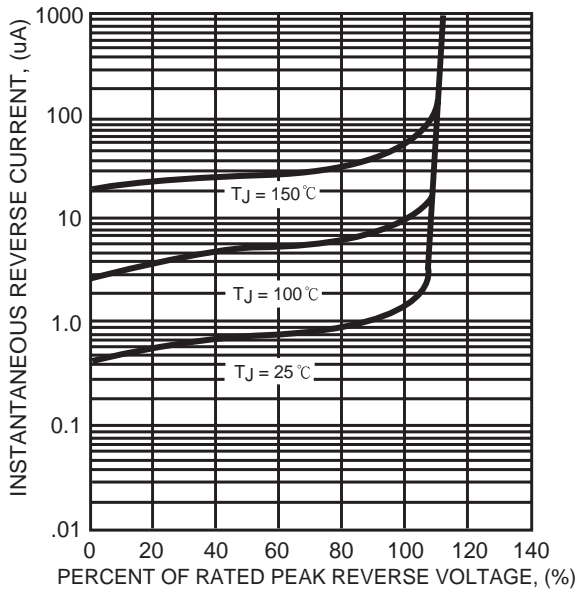


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

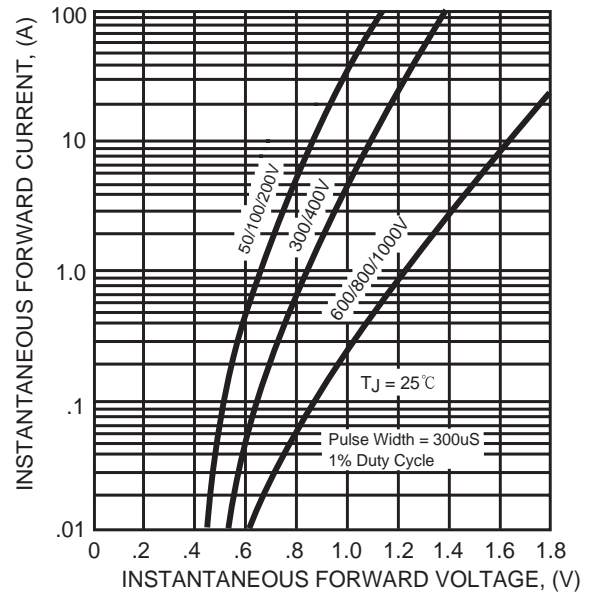


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

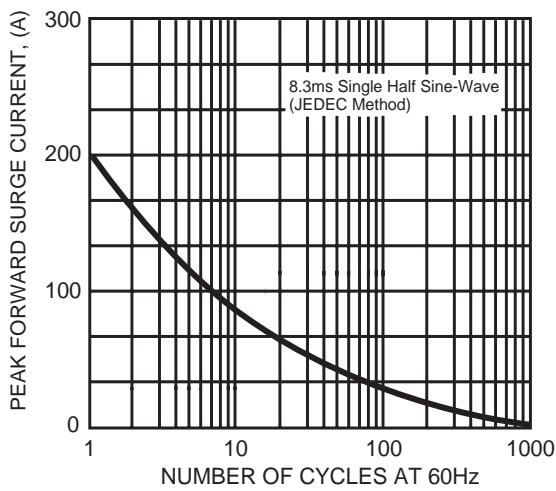


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

