

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

5.0A Ultra Fast Recovery Rectifier HER501~HER508

(Package: DO-201AD)

<p>FEATURES</p> <ul style="list-style-type: none"> • 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 /10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : JEDEC DO-201AD, Molded plastic body • Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026 • Polarity : Color band denoted cathode end • Mounting Position : Any • Weight : 0.04 ounce, 1.10 grams 	<p>Case: DO-201AD Dimensions in inches and (millimeters)</p>
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Ratings & Electrical Characteristics

Characteristic	Symbol	HER 501	HER 502	HER 503	HER 504	HER 505	HER 506	HER 507	HER 508	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_o	5.0								Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150.0								Amps
Maximum instantaneous forward voltage at 5.0A	V_F	1.00		1.40		1.85			Volts	
Maximum DC reverse current at rated DC blocking voltage $T_a = 25$ $T_a = 100$	I_R	10.0				250.0				μA
Maximum reverse recovery time (Note 1)	T_{rr}	50				100				ns
Typical junction capacitance (Note 2)	C_j	70				50				PF
Typical thermal resistance (Note 3)	R_{th-JA}	20.0								/ W
Operating junction and storage temperature range	T_j, T_{stg}	-65 to +150								

Note :

1. Reverse recovery conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts DC
3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

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Ratings and Characteristic Curves of HER501~HER508

FIG.1-TYPICAL FORWARD CHARACTERISTICS

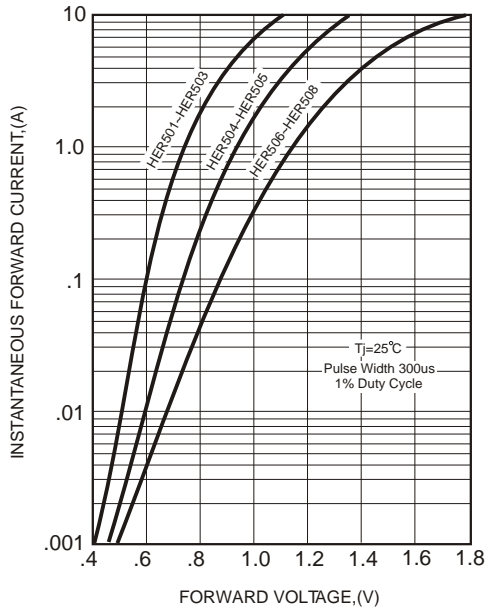


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

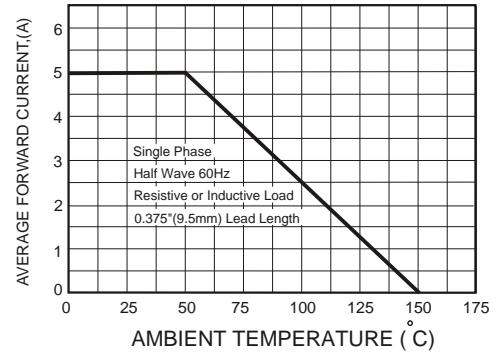


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

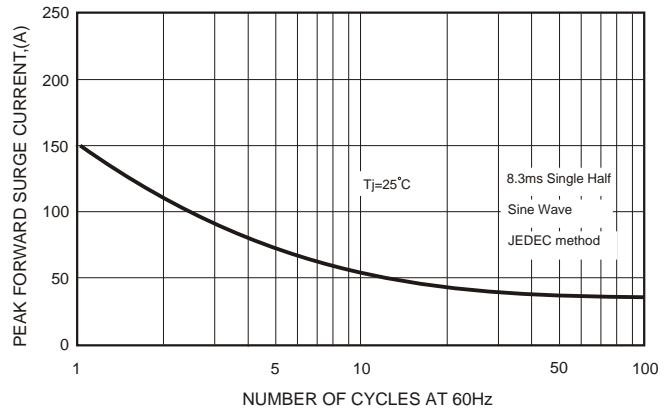
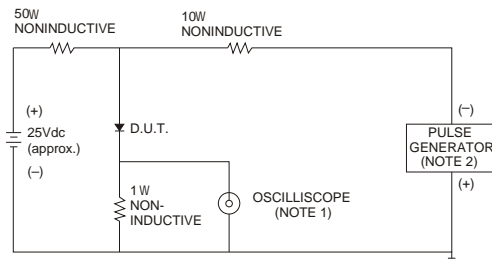


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

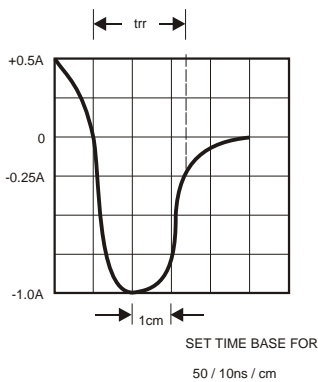


FIG.5-TYPICAL JUNCTION CAPACITANCE

