



HIGH EFFICIENCY RECTIFIER

HER501 THRU HER508

VOLTAGE RANGE
CURRENT

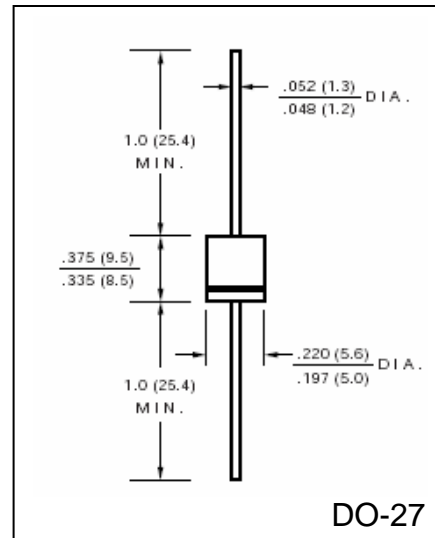
50 to 1000 Volts
5.0 Ampere

FEATURES

- Low power loss, high efficiency
- Low Leakage
- High speed switching
- High Surge Capacity
- High Temperature soldering guaranteed:
260°C / 10 second, 0.375" (9.5mm) lead length

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V – 0 rate flame retardant
- Polarity: Color Band denotes cathode end
- Lead: Plated axial lead, solderable per MIL – STD-202E Method 208C
- Mounting Position: Any
- Weight: 0.042 ounce, 1.19 gram



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%

	SYMBOLS	HER 501	HER 502	HER 503	HER 504	HER 505	HER 506	HER 507	HER 508	UNIT
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 $T_A = 50^\circ C$	$I_{(AV)}$	3.0								Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	200				150				Amps
Maximum Instantaneous Forward Voltage @5.0A	V_F	1.0		1.3		1.5		1.7		Volts
Maximum DC Reverse Current at Rated $T_A = 25^\circ C$	I_R	10								μA
DC Blocking Voltage per element $T_A = 125^\circ C$		250								
Maximum Full Load Reverse Current, Full Cycle average 0.375" (9.5mm) lead length at $T_L = 55^\circ C$	$I_{R(AV)}$	150								μA
Maximum Reverse Recovery Time Test conditions $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$	t_{rr}	50				70				nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	70				50				pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	20								$^\circ C/W$
Operating Junction Temperature	T_J	(-55 to +150)								$^\circ C$
Storage Temperature Rang	T_{STG}	(-55 to +150)								$^\circ C$

Notes:

1. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, PCB mounted



RATINGS AND CHARACTERISTIC CURVES HER501 THRU HER508

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

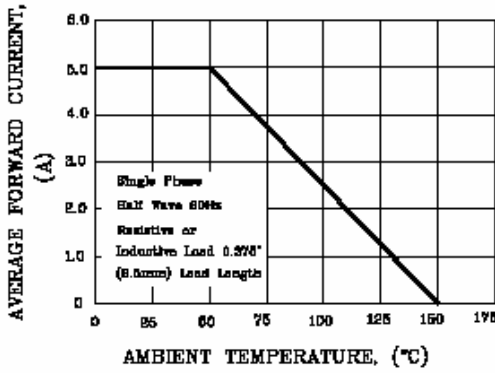


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

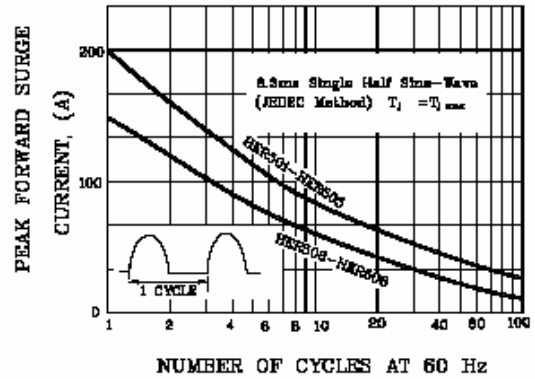


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

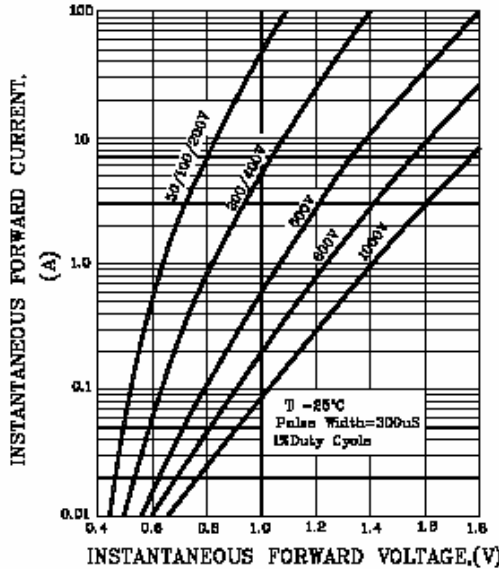


FIG.4-TYPICAL REVERSE CHARACTERISTICS

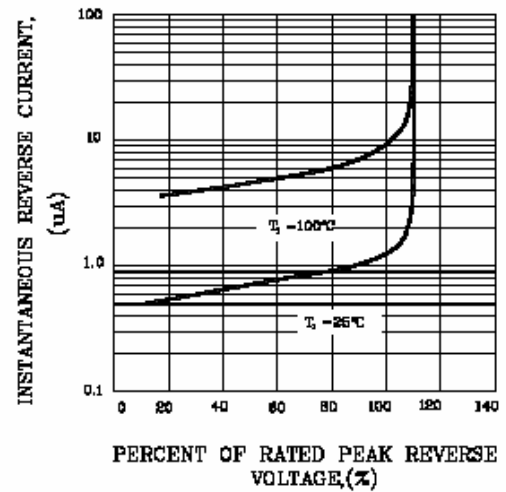


FIG.5-TYPICAL JUNCTION CAPACITANCE

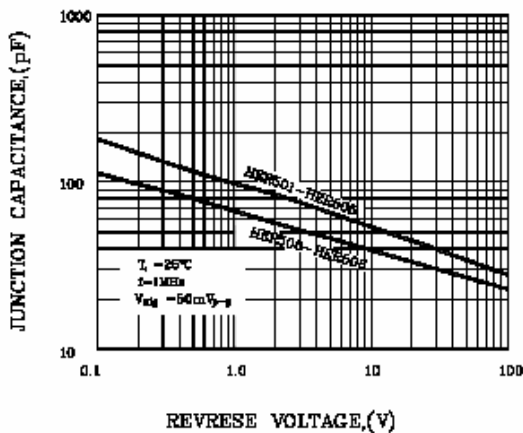
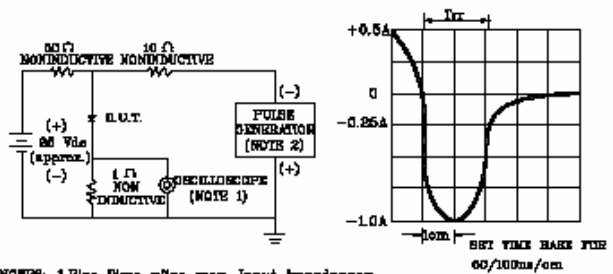


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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