Lead Free
RoHS Compliant

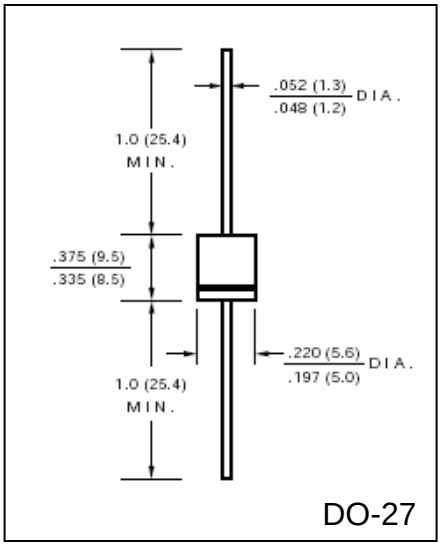
HIGH EFFICIENCY RECTIFIER

HER501 THRU HER508

VOLTAGE RANGE **50 to 1000 Volts**
CURRENT **5.0 Ampere**

FEATURES

- Low power loss, high efficiency
- Low Leakage
- High speed switching
- High Surge Capacity
- High Temperature soldering guaranteed:
  260 ^{O}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^{O}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^{O}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 ^{O}C DC Blocking Voltage per element T_A = 125 ^{O}C	I_R	10 250								µA
Maximum Full Load Reverse Current, Full Cycle average 0.375" (9.5mm) lead length at T_L = 55^{O}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								^{O}C/W
Operating Junction Temperature	T_J	(-55 to +150)								^{O}C
Storage Temperature Rang	T_{STG}	(-55 to +150)								^{O}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

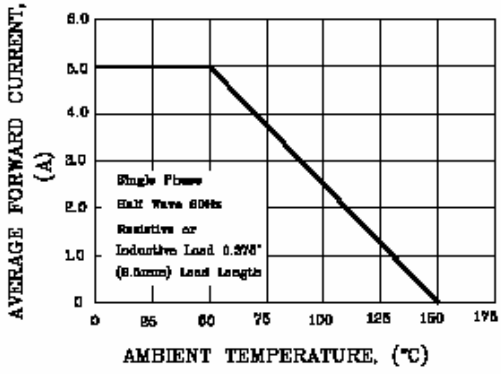


FIG.2–MAXIMUM NON–REPETITIVE PEAK FORWARD SURGE CURRENT

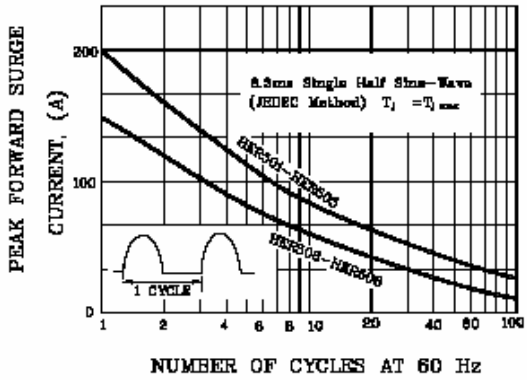


FIG.3–TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

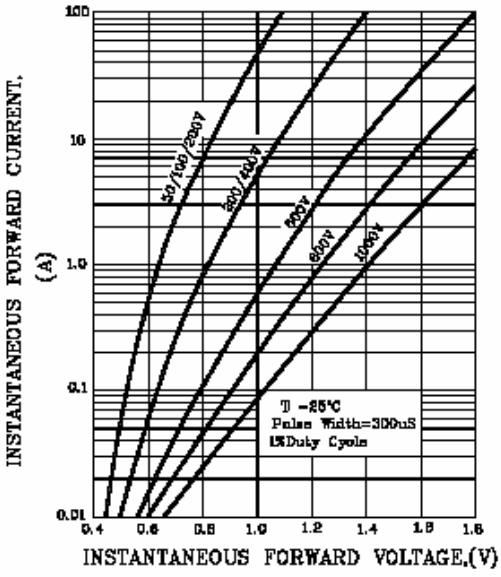


FIG.4–TYPICAL REVERSE CHARACTERISTICS

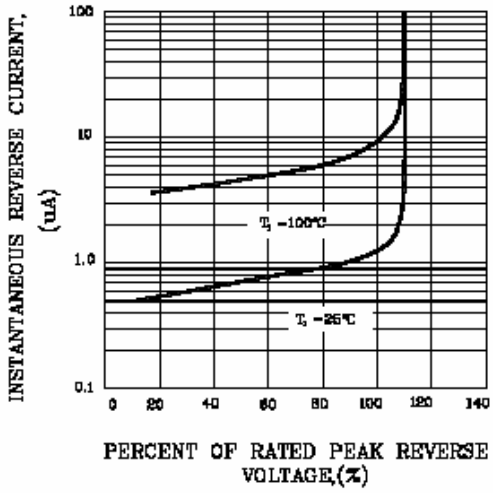


FIG.5–TYPICAL JUNCTION CAPACITANCE

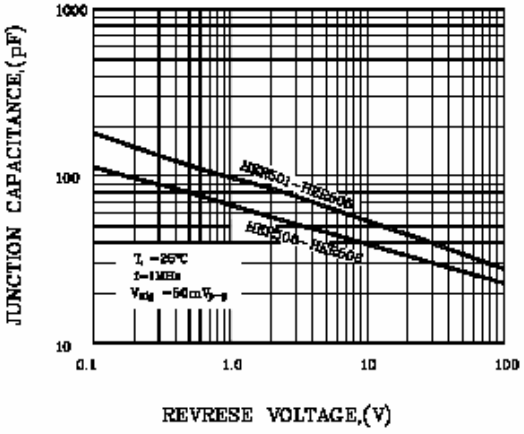
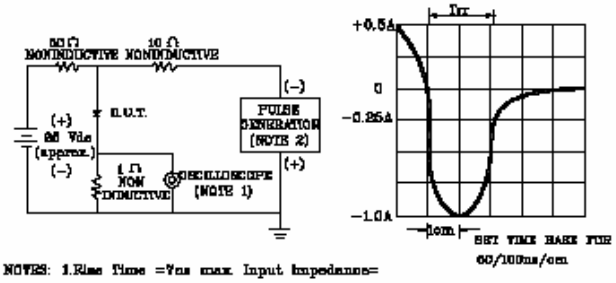


FIG.6–TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1.Rise Time =7ns max. Input Impedance= 1 megohm 22pF

2.Rise time=10ns max. Source Impedance= 50 ohms