

# HER510B-HER560B

High Efficiency Rectifiers

**VOLTAGE RANGE: 100 --- 600 V**

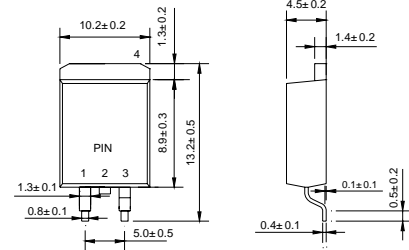
**CURRENT: 5.0 A**



## D<sup>2</sup>PAK

### Features

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0



### Mechanical Data

- ◇ Case: JEDEC D<sup>2</sup>PAK, molded plastic body
- ◇ Polarity: As marked
- ◇ Weight: 0.087 ounces, 2.2 grams
- ◇ Mounting position: Any

Dimensions in millimeters

### 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 by 20%.

		HER 510B	HER 520B	HER 540B	HER 560B	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	400	600	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	V
Maximum DC blocking voltage	$V_{DC}$	100	200	400	600	V
Maximum average forward rectified current 9.5mm lead length, @ $T_C=75^\circ C$	$I_{F(AV)}$	5.0				A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	100				A
Maximum instantaneous forward voltage @ 5.0A	$V_F$	1.0		1.3	1.7	V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=100^\circ C$	$I_R$	10 150				$\mu A$
Maximum reverse recovery time (Note1)	$t_{rr}$	50			100	ns
Typical junction capacitance (Note2)	$C_J$	40				pF
Typical thermal resistance (Note3)	$R_{\theta JC}$	20				$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ---- + 150				$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ---- + 150				$^\circ C$

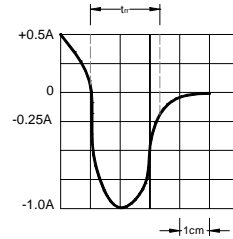
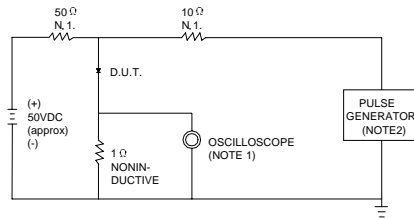
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient.

### Ratings AND Characteristic Curves

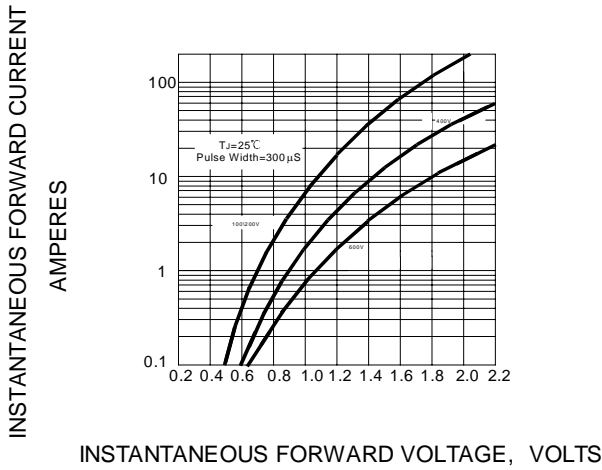
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



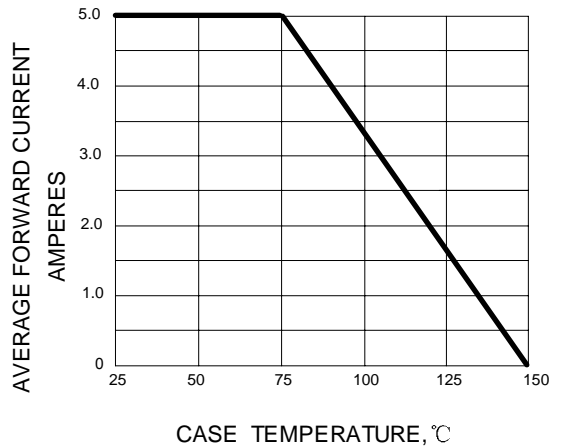
NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ.22pF.  
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω.

SET TIME BASE FOR 20/45 ns/cm

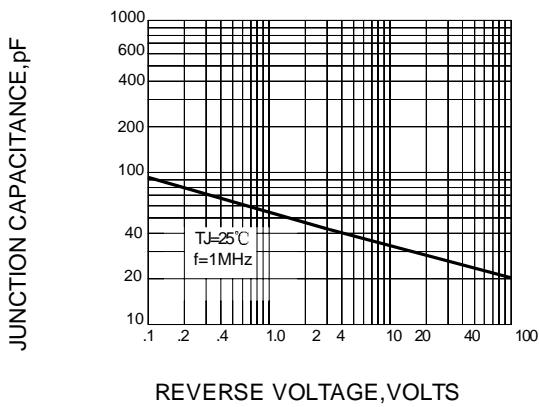
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 -- FORWARD DERATING CURVE**



**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**



**FIG.5 -- PEAK FORWARD SURGE CURRENT**

