

**HIGH EFFICIENCY RECTIFIER**  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 5.0 Amperes

**FEATURES**

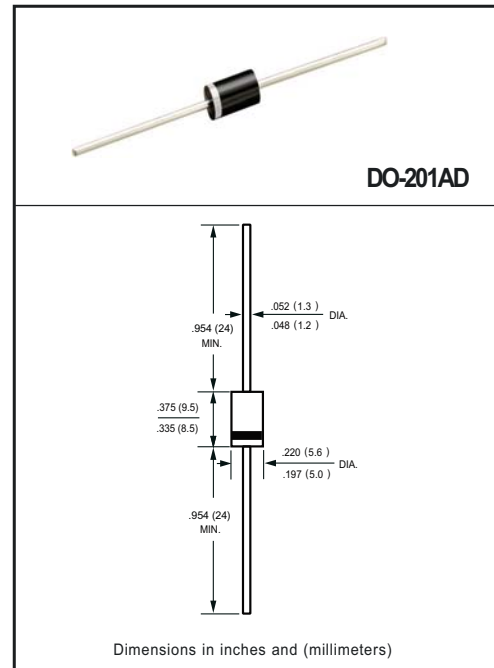
- \* Low power loss,high efficiency
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High speed switching
- \* High reliability
- \* High current surge

**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-O
- \* Case: Molded plastic
- \* 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.  
resistive or inductive load.



**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

RATINGS	SYMBOL	HER501G	HER502G	HER503G	HER504G	HER505G	HER506G	HER507G	HER508G	UNITS
Maximum Recurrent 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 at $T_A = 50^\circ\text{C}$	$I_O$	5.0								Amps
Peak Forward Surge Current 8.3 ms single halfsine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	200					150			Amps
Current Squared Time	$I^2t$	165.9					93.3			$\text{A}^2\text{S}$
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	8								$^\circ\text{C}/\text{W}$
	$R_{\theta JA}$	17								
Typical Junction Capacitance (Note 2)	$C_J$	70					50			pF
Operating Temperature Range	$T_J$	-55 to + 150								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to + 150								$^\circ\text{C}$

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

CHARACTERISTICS	SYMBOL	HER501G	HER502G	HER503G	HER504G	HER505G	HER506G	HER507G	HER508G	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC	$V_F$	1.0		1.3		1.7			Volts	
Maximum Average Reverse Current at Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$	$I_R$	0.5								$\mu\text{A}$
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at $T_L = 55^\circ\text{C}$		65								
Maximum Reverse Recovery Time (Note 4)	$t_{rr}$	50					75			nSec

- NOTES : 1. Thermal Resistance : At 9.5mm lead length, PCB mounted.  
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
 3. "ROHS compliant"  
 4. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = -1.0\text{A}$ ,  $I_{RR} = -0.25\text{A}$ .

## RATING AND CHARACTERISTICS CURVES ( HER501G THRU HER508G)

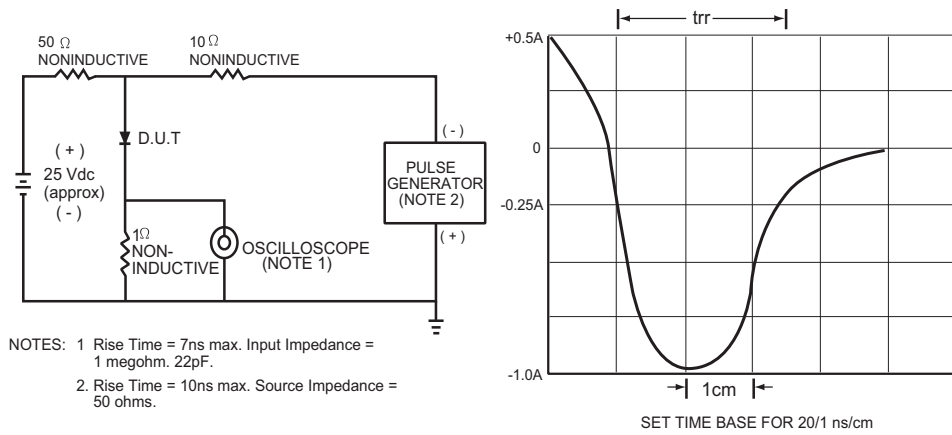


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

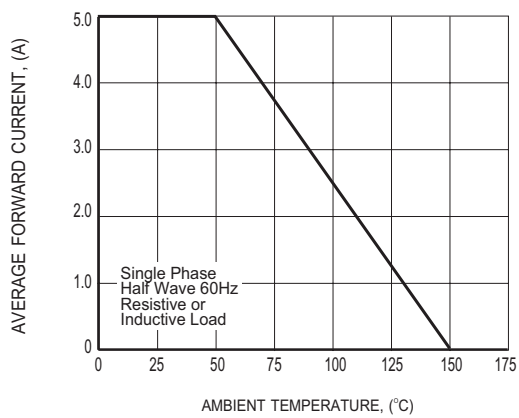


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

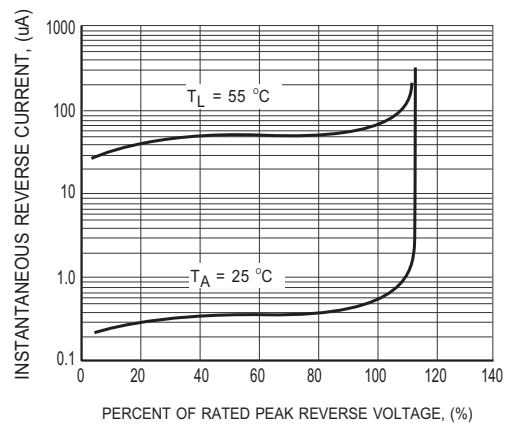
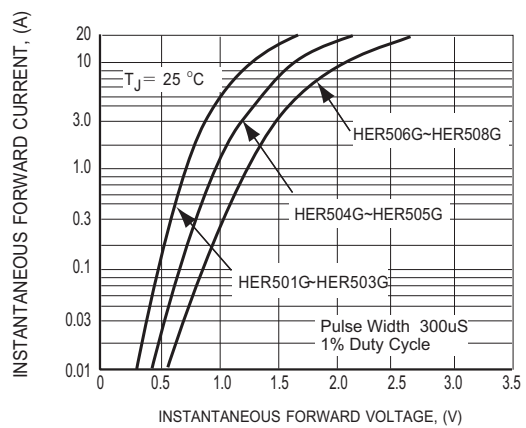
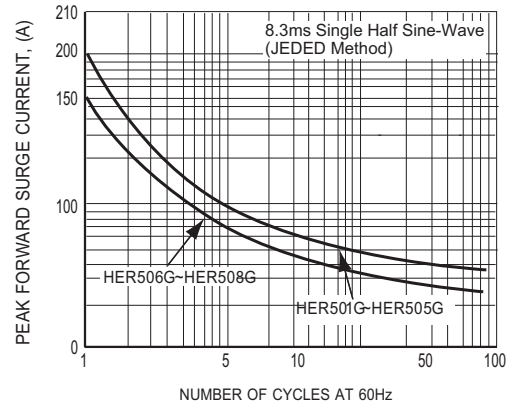


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

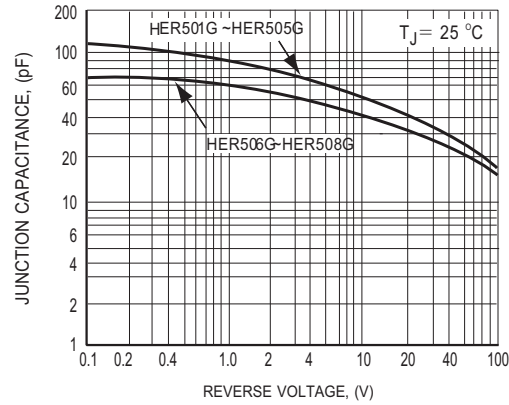
## RATING AND CHARACTERISTICS CURVES ( HER501G THRU HER508G)



**FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**



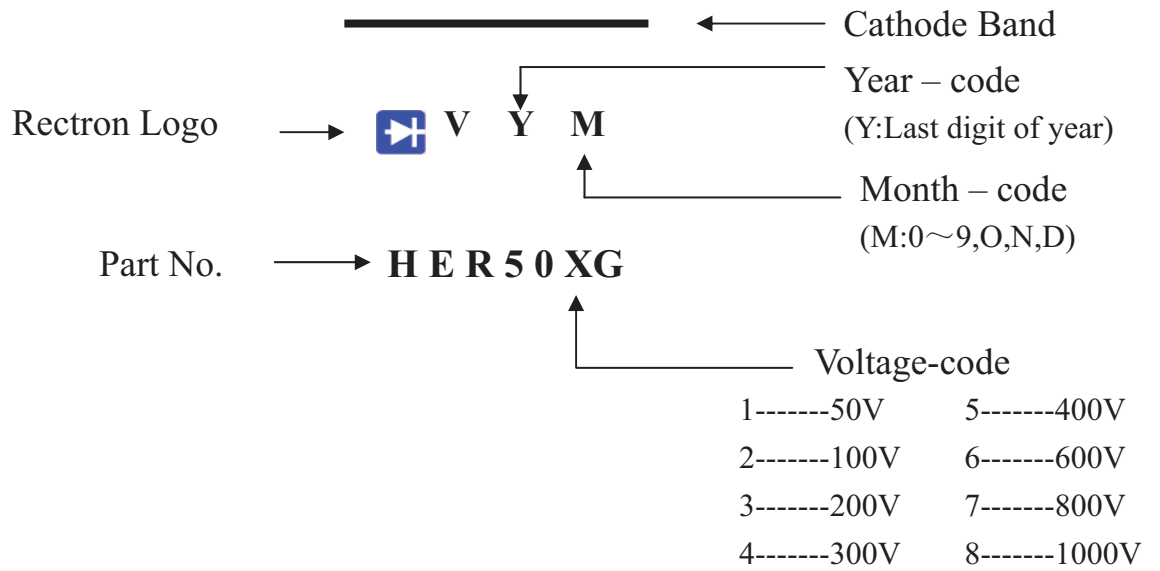
**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6 TYPICAL JUNCTION CAPACITANCE**



## Marking Description



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### BULK PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
DO-201	-B	500	300*73*40	347*320*271	12,000	15.9

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
DO-201	-T	1,200	1,200	5.0	52	330	355*350*335	4,800	9.10

### AMMO PACK

PACKAGE	PACKING CODE	REEL ( EA )	COMPONENT SPACE(mm)	TAPE SPACE (mm)	BOX SIZE (mm)	CARTON SIZE(mm)	CARTON ( EA )	GROSS WEIGHT (Kg)
DO-201	-F	600	9.5	52	255*73*100	400*268*225	6,000	9.9