

HIGH EFFICIENCY SILICON RECTIFIER
VOLTAGE RANGE 50 to 1000 Volts CURRENT 3.0 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

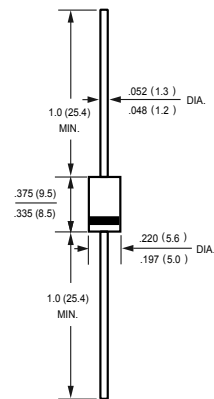
- * Epoxy: Device has UL flammability classification 94V-O
- * Case: Molded plastic
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 1.20 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



DO-201AD



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	HER301	HER302	HER303	HER304	HER305	HER306	HER307	HER308	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°C	I _O	3.0								Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	200					150			Amps
Typical Thermal Resistance (Note 1)	R _{θJL}	8.5								°C/W
	R _{θJA}	20								
Typical Junction Capacitance (Note 2)	C _J	70					50			pF
Operating Temperature Range	T _J	150								°C
Storage Temperature Range	T _{STG}	-55 to + 150								°C

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

CHARACTERISTICS		SYMBOL	HER301	HER302	HER303	HER304	HER305	HER306	HER307	HER308	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°C	I _R	5								μA
	@T _A = 125°C		150								μA
Maximum Reverse Recovery Time (Note 4)		trr	50					75			nSec

- NOTES : 1. Thermal Resistance : Mounted on PCB.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".
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 (HER301 THRU HER308)

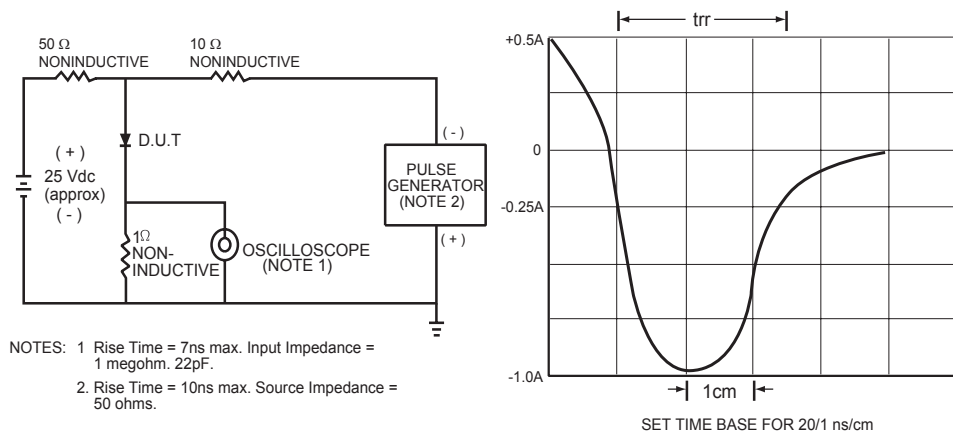


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

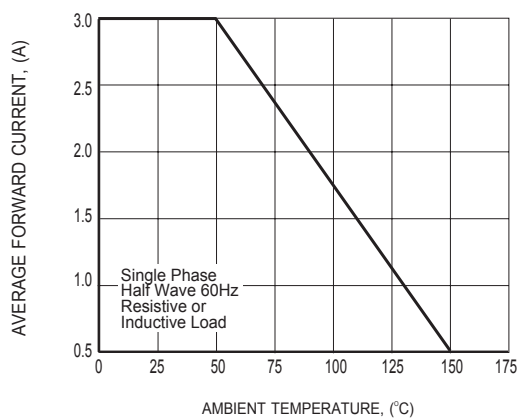


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

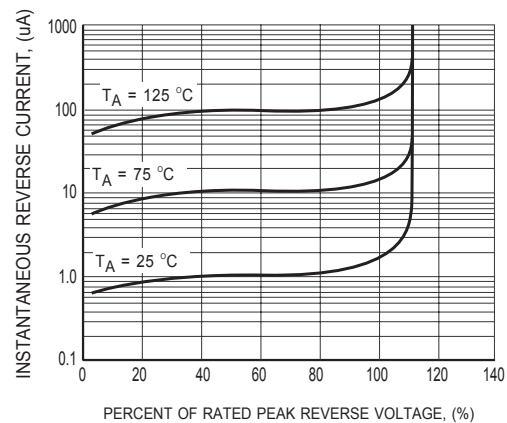


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (HER301 THRU HER308)

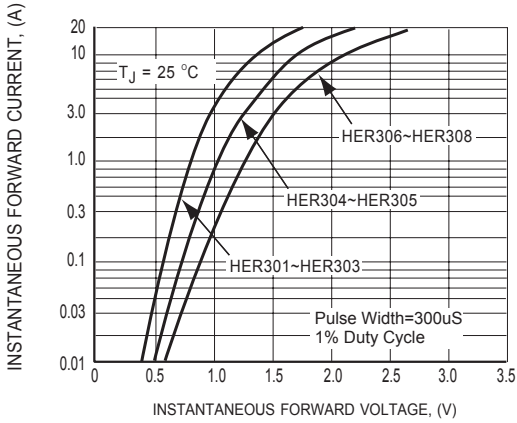


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

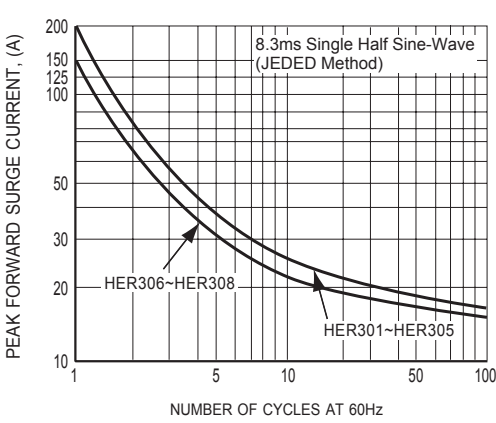


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

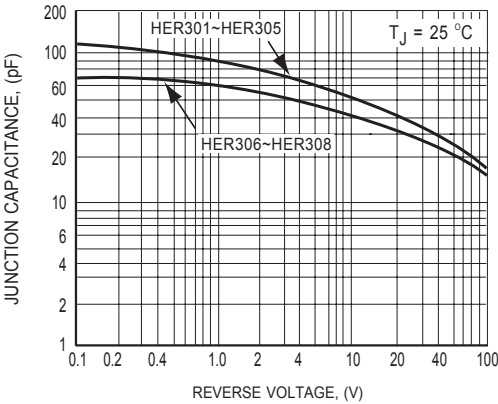


FIG.6 TYPICAL JUNCTION CAPACITANCE

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