



HER502 THRU HER508

VOLTAGE RANGE 100 to 1000 Volts
CURRENT 5.0 Ampere

Features

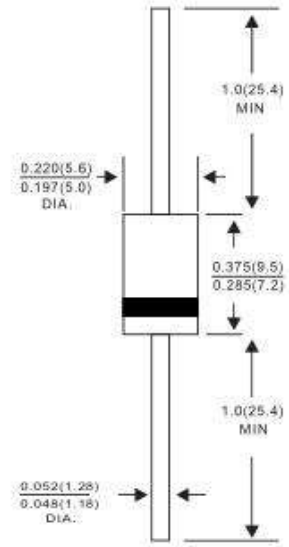
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High reliability
- High temperature soldering guaranteed
260°C/10 seconds, 0.375"(9.5mm) lead length at 5 lbs(2.3kg) tension

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: 0.042ounce, 1.19 gram



DO-201AD



Dimensions in inches and (millimeters)

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%

TYPE NUMBER	SYMBOL	HER 502	HER 503	HER 504	HER 505	HER 506	HER 507	HER 508	UNIT
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	100	200	300	400	600	800	1000	Volts
Maximum RMS Voltage	V _{RMS}	70	140	210	280	420	560	700	Volts
Maximum DC Blocking Voltage	V _{DC}	100	200	300	400	600	800	1000	Volts
Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at T _A =100°C	I _(AV)	5.0							Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	I _{FSM}	125							Amps
Maximum Instantaneous Forward Voltage at 5.0A	V _F	1.00	1.30		1.70			Volts	
Maximum DC Reverse Current at rated DC blocking Voltage at	T _A = 25°C	5.0							µA
	T _A = 125°C	100							
Maximum Reverse Recovery Time (NOTE 1)	T _{RR}	50			75			nS	
Typical Junction Capacitance (NOTE 2)	C _J	60							pF
Typical Thermal Resistance (NOTE 3)	R _{θJA}	30							°C/W
Operating Junction Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C

Notes:

1. Reverse Recovery Test Conditions: I_f=0.5A, I_r=1.0A, I_{rr}=0.25A.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Thermal Resistance from Junction to Ambient with 0.375"(9.5mm) lead length, PCB mounted.



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Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

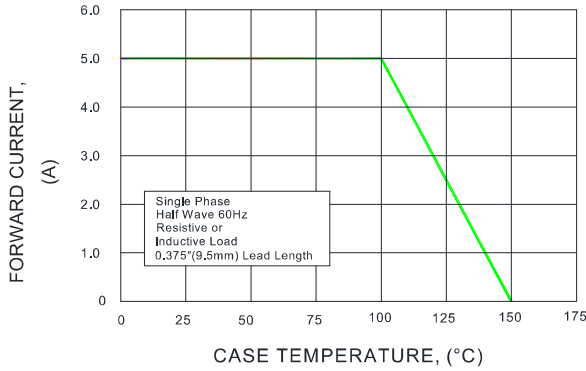


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

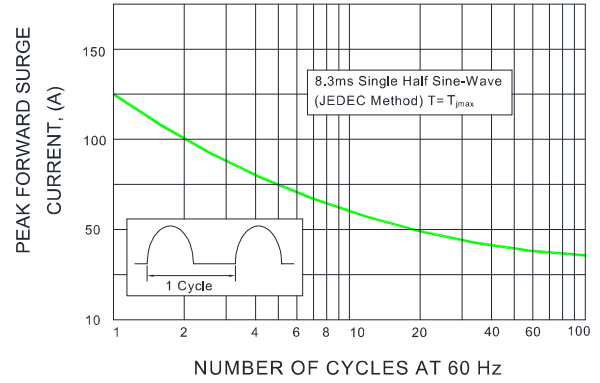


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

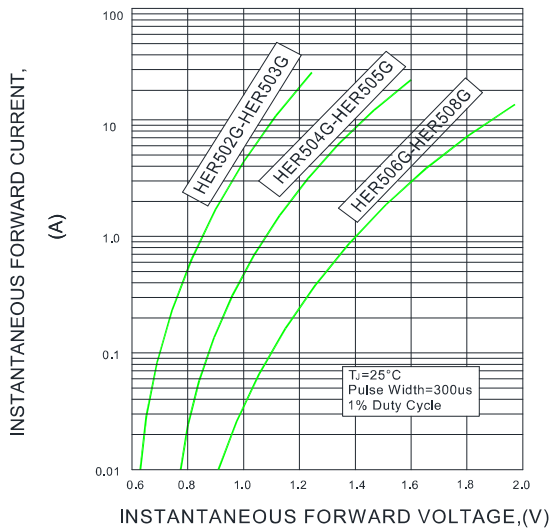


FIG.4-TYPICAL REVERSE CHARACTERISTICS

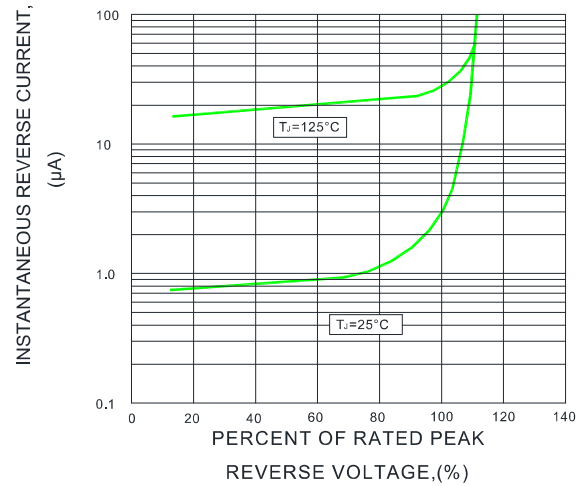


FIG.5-TYPICAL JUNCTION CAPACITANCE

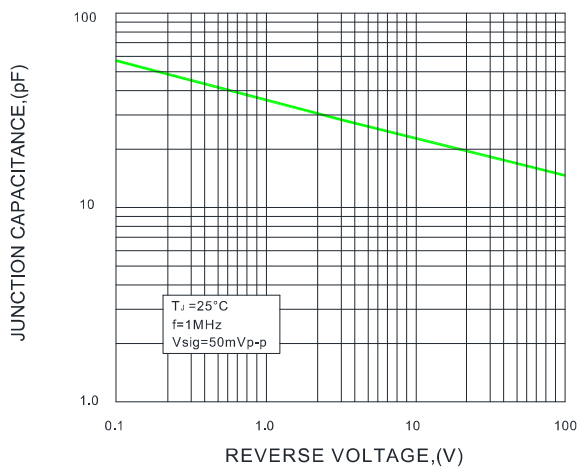
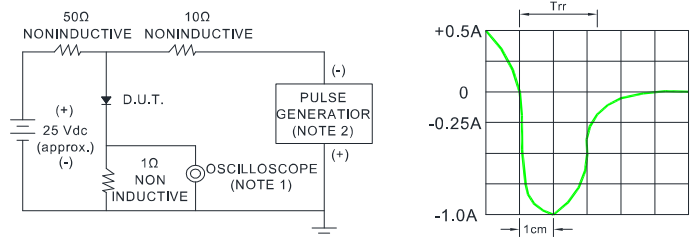


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

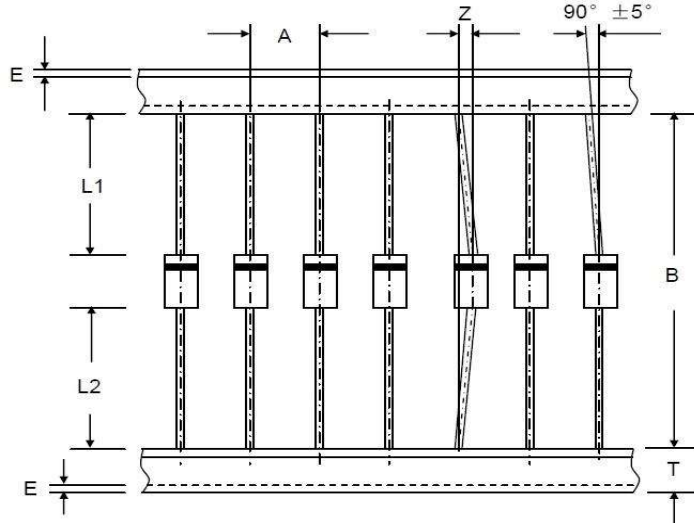


NOTES : 1. Rise Time=7ns max. Input Impedance= 1 magohm. 22pF
2. Rise time=10ns max. Source Impedance= 50 ohms

SET TIME BASE FOR 50/100ns/cm



Axial Lead Taping Specifications for Rectifiers

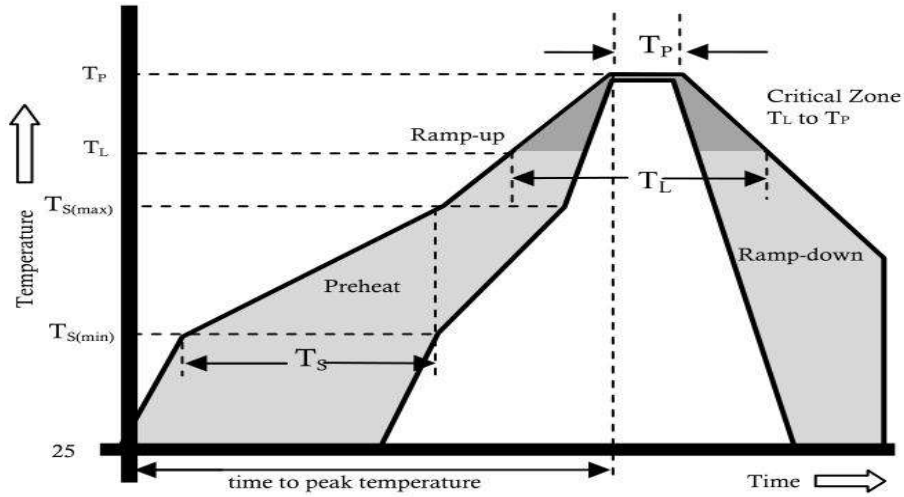


Component Outline	Component Pitch A	Inner Tape Pitch B	Cumulative Tolerance
	±0.5mm	+0.5mm -0.4mm	
DO-201AD(DO-27)	10.0mm	52.4mm	2.0mm/20pitch

Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	IL1-L2I	1.0 max	0.040 max



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(TL) to peak)		3°C/sec. Max.
TS(max) to TL - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (TL)(Liquidus)	+217°C
	Temperature (TL)	60-150 secs.
Peak Temp (TP)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (TP)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (TP)		8 min. Max.
Do not exceed		+260°C



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