



# Frontier Electronics Corp.

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## 3A ULTRA FAST RECOVERY RECTIFIER

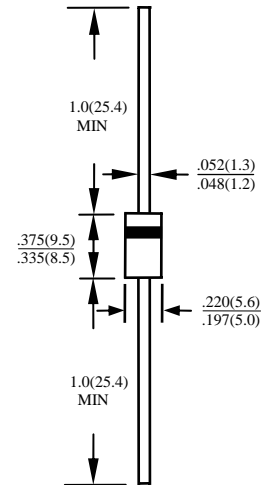
### HER301-LFR THRU HER308-LFR

#### FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- ULTRA FAST RECOVERY TIMES FOR HIGH EFFICIENCY
- LOW FORWARD VOLTAGE, HIGH CURRENT CAPABILITY
- LOW LEAKAGE
- HIGH SURGE CAPABILITY
- HIGH TEMPERATURE SOLDERING GUARANTEED:  
260°C 0.375" (9.5mm) LEAD LENGTHS FOR 10 SECONDS AT 5 LBS. (2.3 KG) TENSION.
- ROHS

#### MECHANICAL DATA

- CASE: JEDEC DO-201AD, MOLDED PLASTIC, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: AXIAL LEADS SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE END
- MOUNTING POSITION: ANY
- WEIGHT: 1.2 GRAM



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%

RATINGS	SYMBOL	HER301 -LFR	HER302 -LFR	HER303 -LFR	HER304 -LFR	HER305 -LFR	HER306 -LFR	HER307 -LFR	HER308 -LFR	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	50	100	200	300	400	600	800	1000	V
MAXIMUM RMS VOLTAGE	$V_{RMS}$	35	70	140	210	280	420	560	700	V
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	50	100	200	300	400	600	800	1000	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375" (9.5mm) LEAD LENGTH AT $T_A=50^\circ\text{C}$	$I_O$	3.0								A
PEAK FORWARD SURGE CURRENT 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	150								A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_J$	75				50				PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	20								°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	-55 TO + 150								°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	-55 TO + 150								°C

#### ELECTRICAL CHARACTERISTICS (AT $T_A=25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	HER301 -LFR	HER302 -LFR	HER303 -LFR	HER304 -LFR	HER305 -LFR	HER306 -LFR	HER307 -LFR	HER308 -LFR	UNIT
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	1.3				1.85				V
MAXIMUM REVERSE CURRENT AT $T_A=25^\circ$	$I_R$	10								$\mu\text{A}$
MAXIMUM REVERSE CURRENT AT $T_A=100^\circ$	$I_{RR}$	100								$\mu\text{A}$
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	50				75				nS

- NOTE:
1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
  2. BOTH LEADS ATTACHED TO HEAT SINK 63.5×63.5×1t(mm) COPPER PLATE AT LEAD LENGTH 5mm
  3. REVERSE RECOVERY TEST CONDITIONS:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

# RATINGS AND CHARACTERISTIC CURVE HER301-LFR THRU HER308-LFR

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

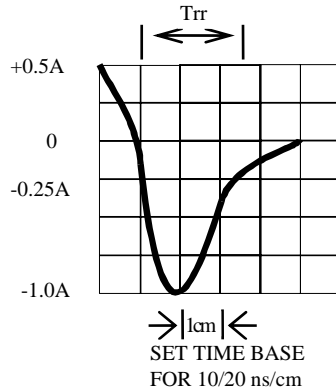
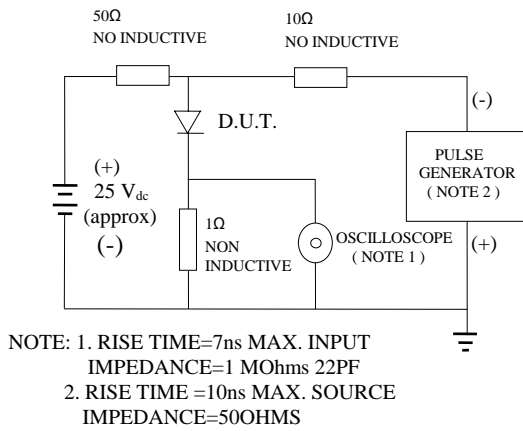


FIG. 2 -TYPICAL FORWARD CURRENT DERATING CURVE

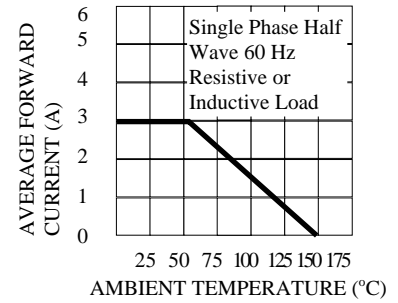


FIG. 3 -TYPICAL REVERSE CHARACTERISTICS

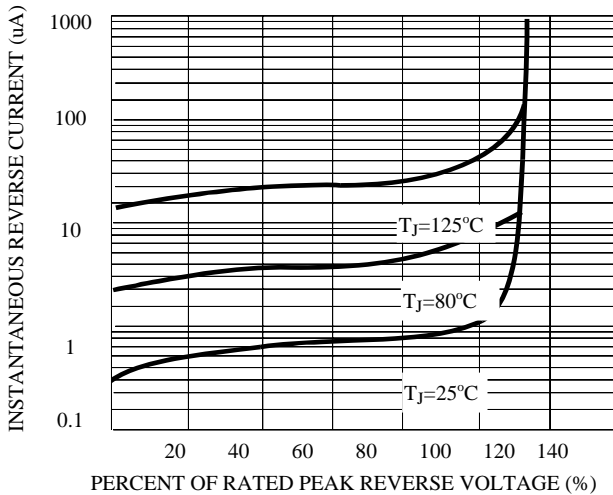


FIG. 4 -TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

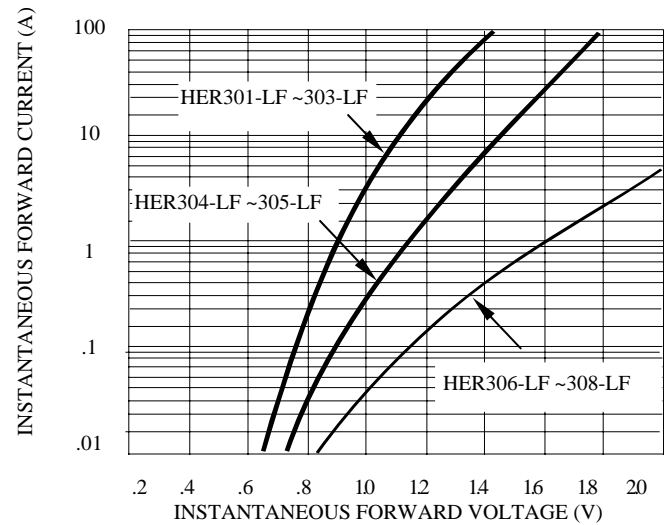


FIG. 5 -MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

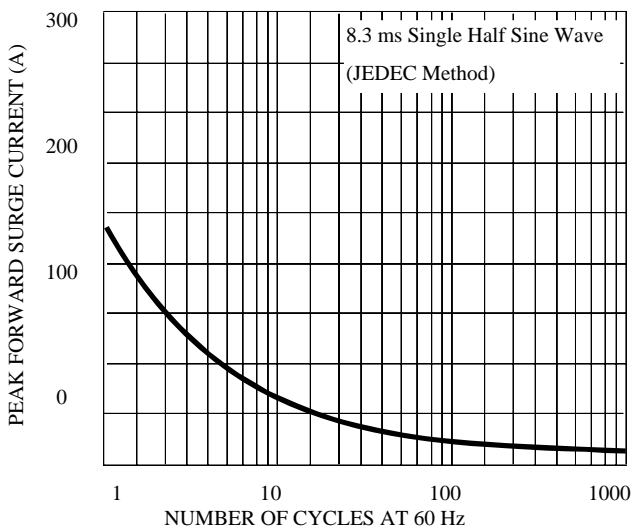


FIG. 6 -TYPICAL JUNCTION CAPACITANCE

