



# Frontier Electronics Corp.

667 E. COCHRAN STREET, SIMI VALLEY, CA 93065  
 TEL: (805) 522-9998 FAX: (805) 522-9989  
 E-mail: [frontiersales@frontierusa.com](mailto:frontiersales@frontierusa.com)  
 Web: <http://www.frontierusa.com>

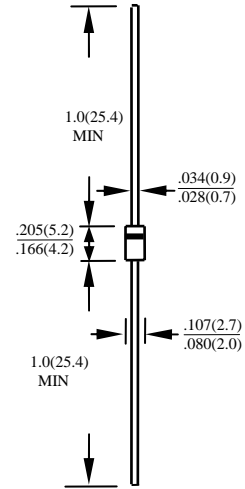
## 1A FAST RECOVERY PLASTIC RECTIFIER **BA157-LFR THRU BA159-LFR**

### FEATURES

- FOR USE IN HIGH FREQUENCY RECTIFIER CIRCUITS
- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94 V-0
- FAST SWITCHING FOR HIGH EFFICIENCY
- LEAD FREE

### MECHANICAL DATA

- CASE: MOLDED PLASTIC CASE, DO41, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINAL: AXIAL LEADS, SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE
- MOUNTING POSITION: ANY
- WEIGHT: 0.34 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	BA157-LFR	BA158-LFR	BA159-LFR	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	400	600	1000	V
MAXIMUM RMS VOLTAGE	$V_{RMS}$	280	420	700	V
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	400	600	1000	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375"(9.5mm) LEAD LENGTH AT $T_A = -55^\circ\text{C}$	$I_O$	1.0			A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	35			A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_j$	15			PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	50			$^\circ\text{C/W}$
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 55 TO + 150			$^\circ\text{C}$
OPERATING TEMPERATURE RANGE	$T_{OP}$	- 55 TO + 150			$^\circ\text{C}$

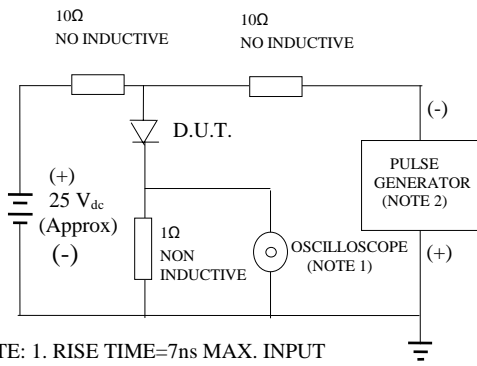
### ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	BA157-LFR	BA158-LFR	BA159-LFR	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	1.3			V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	5			$\mu\text{A}$
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	50			$\mu\text{A}$
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	150		250	nS

- NOTE:
1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
  2. BOTH LEADS ATTACHED TO HEAT SINK 20x20x1t (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 CHARACTERISTICS CURVES BA157-LFR THRU BA159-LFR

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



NOTE: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1 MOhms 22PF  
2. RISE TIME =10ns MAX. SOURCE IMPEDANCE=50 OHMS

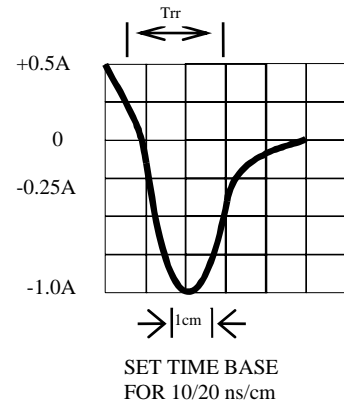


Fig. 2-MAXIMUM CURRENT DERATING CURVE

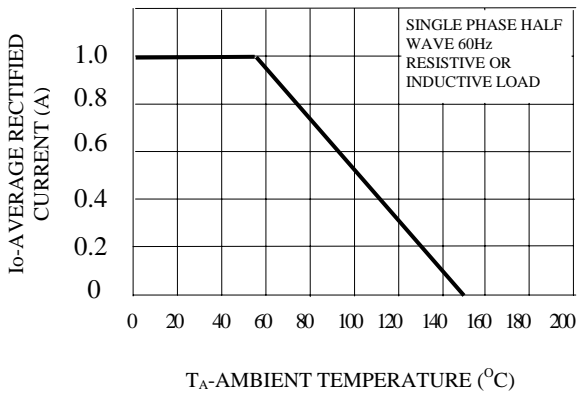


Fig. 3-MAXIMUM FORWARD SURGE NUMBER OF CYCLES

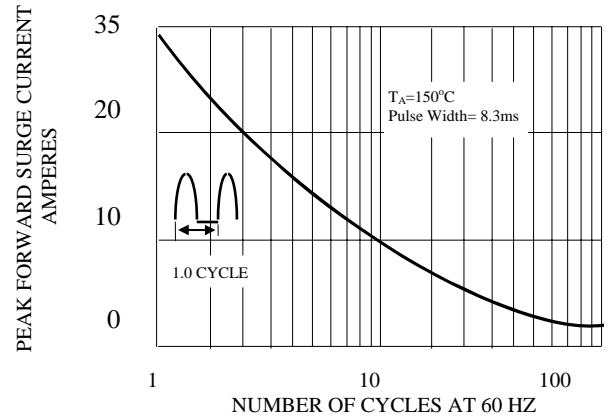


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

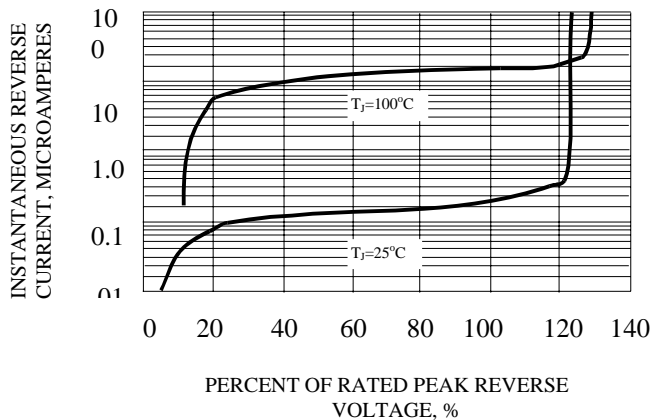


FIG. 5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

