



Frontier Electronics Corp.

667 E. COCHRAN STREET, SIMI VALLEY, CA 93065

TEL: (805) 522-9998 FAX: (805) 522-9989

E-mail: frontiersales@frontierusa.com

Web: <http://www.frontierusa.com>

1A FAST RECOVERY PLASTIC RECTIFIER

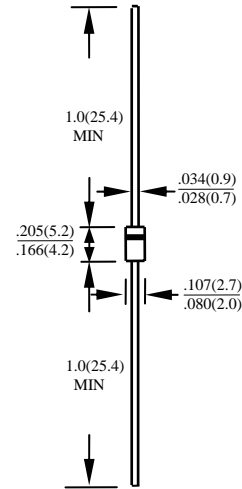
BA157 THRU BA159

FEATURES

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

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 | BA158 | BA159 | 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 | | | $^\circ\text{C}/\text{W}$ |
| STORAGE TEMPERATURE RANGE | T_{STG} | - 55 TO + 150 | | | $^\circ\text{C}$ |
| OPERATING TEMPERATURE RANGE | T_{OP} | - 55 TO + 150 | | | $^\circ\text{C}$ |

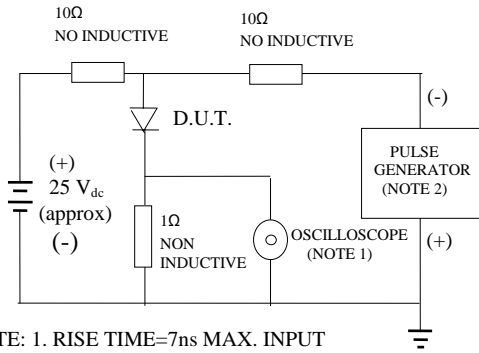
ELECTRICAL CHARACTERISTICS (At $T_A=25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

| CHARACTERISTICS | SYMBOL | BA157 | BA158 | BA159 | UNITS |
|--|----------|-------|-------|-------|---------------|
| MAXIMUM FORWARD VOLTAGE AT I_O DC | V_F | 1.3 | | | V |
| MAXIMUM REVERSE CURRENT AT 25°C | I_R | 5 | | | μA |
| MAXIMUM REVERSE CURRENT AT 100°C | I_R | 50 | | | μA |
| 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 THRU BA159

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=50OHMS

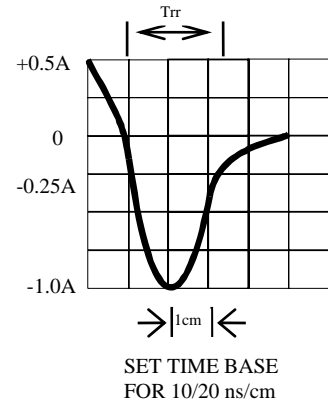


Fig. 2-MAXIMUM CURRENT DERATING CURVE

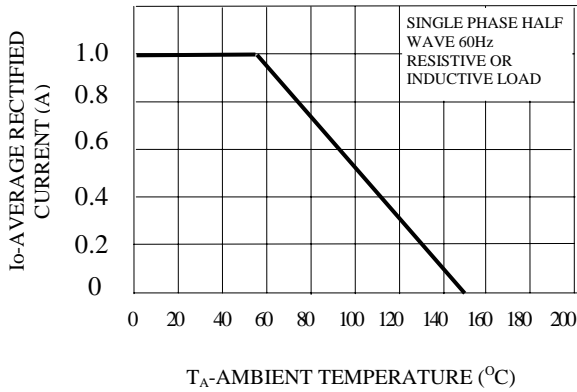


Fig. 3-MAXIMUM FORWARD SURGE NUMBER OF CYCLES

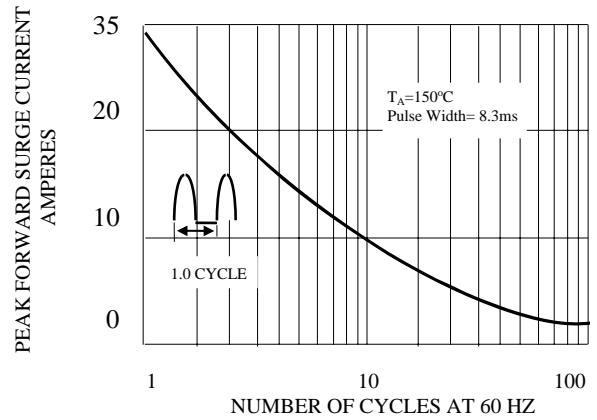


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

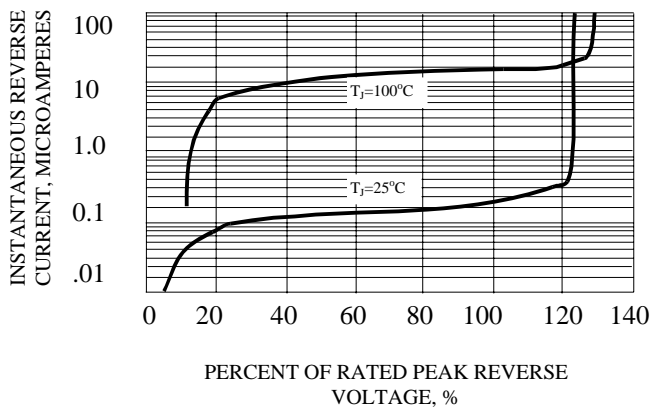


FIG. 5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

