

# BA157 - BA159

**PRV : 400 - 1000 Volts**  
**Io : 1.0 Ampere**

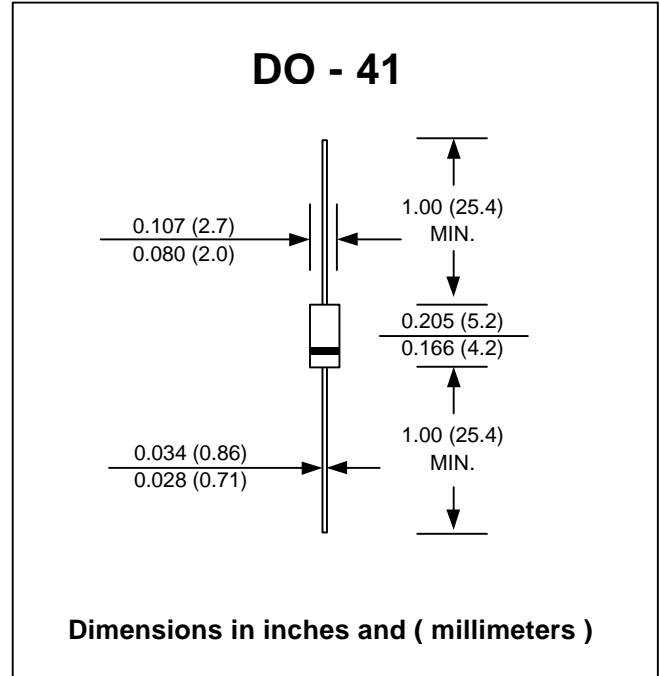
**FEATURES :**

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* Pb / RoHS Free

**MECHANICAL DATA :**

- \* Case : DO-41 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.34 gram

## FAST RECOVERY RECTIFIER DIODES



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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%.

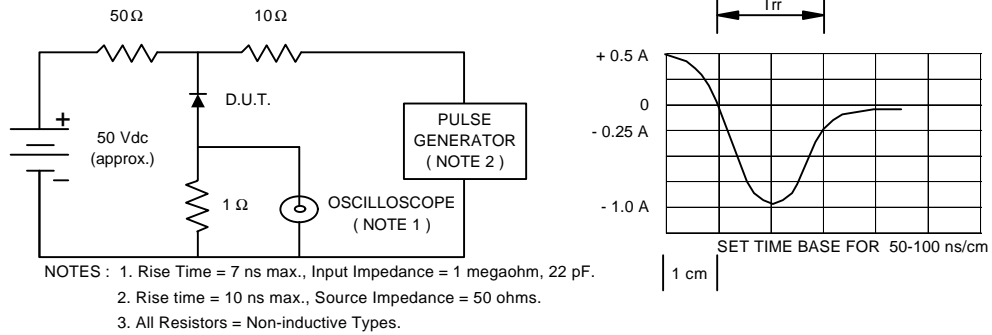
| RATING  | SYMBOL | BA157         | BA158 | BA159 | UNIT |
|---|--------|---------------|-------|-------|------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM   | 400           | 600   | 1000  | V    |
| Maximum RMS Voltage   | VRMS   | 280           | 420   | 700   | V    |
| Maximum DC Blocking Voltage   | VDC    | 400           | 600   | 1000  | V    |
| Maximum Average Forward Current<br>0.375"(9.5mm) Lead Length Ta = 45 °C                                 | IF(AV) | 1.0           |       |       | A    |
| Peak Forward Surge Current,<br>8.3ms Single half sine wave Superimposed<br>on rated load (JEDEC Method) | IFSM   | 35            |       |       | A    |
| Maximum Peak Forward Voltage at IF = 1.0 Amp.   | VF     | 1.3           |       |       | V    |
| Maximum DC Reverse Current Ta = 25 °C<br>at Rated DC Blocking Voltage Ta = 100 °C                       | IR     | 5.0           |       |       | µA   |
|   | IR(H)  | 100           |       |       | µA   |
| Maximum Reverse Recovery Time ( Note 1 )  | Trr    | 150           |       | 250   | ns   |
| Typical Junction Capacitance ( Note 2 )   | CJ     | 20            |       |       | pf   |
| Junction Temperature Range  | TJ     | - 65 to + 150 |       |       | °C   |
| Storage Temperature Range   | TSTG   | - 65 to + 150 |       |       | °C   |

**Notes :**

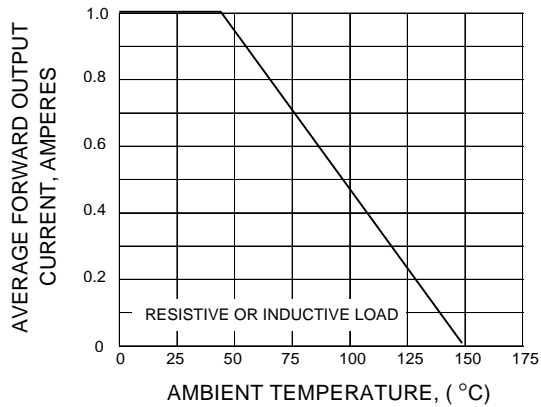
- ( 1 ) Reverse Recovery Test Conditions : IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

## RATING AND CHARACTERISTIC CURVES ( BA157 - BA159 )

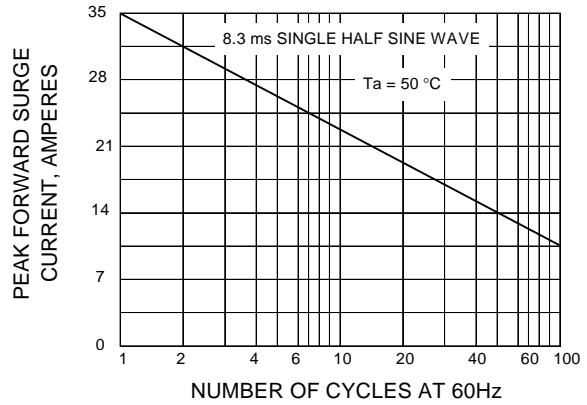
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



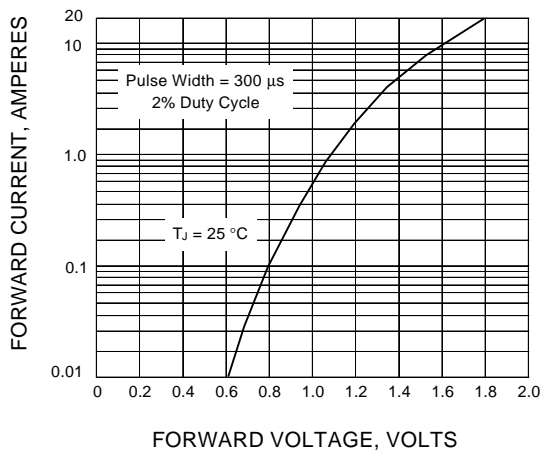
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

