



## FAST RECOVER RECTIFIER

BA157 THRU BA159

VOLTAGE RANGE  
CURRENT

400 to 1000 Volts  
1.0 Ampere

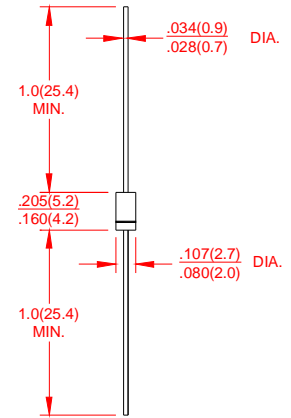
### FEATURES

- Low cost construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 seconds/.375" (9.5mm) lead length at 5 lbs (2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33 grams

DO-41



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%

|  | SYMBOLS                   | BA157         | BA158 | BA159 | UNITS                     |
|--|---------------------------|---------------|-------|-------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$                 | 400           | 600   | 1000  | Volts                     |
| Maximum RMS Voltage  | $V_{RMS}$                 | 280           | 420   | 700   | Volts                     |
| Maximum DC Blocking Voltage  | $V_{DC}$                  | 400           | 600   | 1000  | Volts                     |
| Maximum Average Forward Rectified Current<br>0.375" (9.5mm) lead length at $T_A = 75^\circ\text{C}$    | $I_{(AV)}$                | 1.0           |       |       | Amp                       |
| Peak Forward Surge Current<br>8.3mS single half sine wave superimposed on<br>rated load (JEDEC method) | $I_{FSM}$                 | 30            |       |       | Amps                      |
| Maximum Instantaneous Forward Voltage @ 1.0A   | $V_F$                     | 1.3           |       |       | Volts                     |
| Maximum DC Reverse Current at Rated<br>DC Blocking Voltage   | $T_A = 25^\circ\text{C}$  | 5.0           |       |       | $\mu\text{A}$             |
|  | $T_A = 100^\circ\text{C}$ | 100           |       |       |                           |
| Maximum Reverse Recovery Time (Note 3) $T_J = 25^\circ\text{C}$  | $t_{rr}$                  | 150           | 250   | 500   | ns                        |
| Typical Junction Capacitance (Note 1)  | $C_J$                     | 15            |       |       | pF                        |
| Typical Thermal Resistance (Note 2)  | $R_{\theta JA}$           | 50            |       |       | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range   | $T_J$                     | (-55 to +150) |       |       | $^\circ\text{C}$          |
| Storage Temperature Range  | $T_{STG}$                 | (-55 to +150) |       |       | $^\circ\text{C}$          |

#### Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0Volts.
2. Thermal Resistance from junction to Ambient at .375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Conditions:  $I_f = 0.5\text{A}$ ,  $I_r = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$



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## RATING AND CHARACTERISTIC CURVES BA157 THRU BA159

