



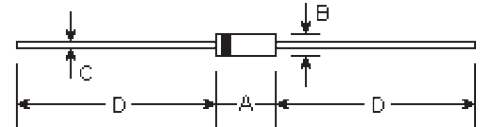
BA157 THRU BA159

FAST SWITCHING PLASTIC RECTIFIER
Reverse Voltage - 400 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High surge current capability
- Void-free plastic package
- Fast switching for high efficiency
- High temperature soldering guaranteed:
350°C/10 seconds, 0.375" (9.5mm) lead length,
5 lbs. (2.3Kg) tension

DO-41



Mechanical Data

- **Case:** DO-41 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.012 ounce, 0.33 gram

| DIM | DIMENSIONS | | | | Note |
|-----|------------|-------|-------|------|------|
| | inches | | mm | | |
| | Min. | Max. | Min. | Max. | |
| A | 0.165 | 0.205 | 4.2 | 5.2 | |
| B | 0.079 | 0.106 | 2.0 | 2.7 | φ |
| C | 0.028 | 0.034 | 0.71 | 0.86 | φ |
| D | 1.000 | - | 25.40 | - | |

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| | 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 0.375" (9.5mm) lead length at $T_A=50^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | Amp |
| Peak forward surge current 8.3mS single half sine-wave superimposed on rated load at $T_A=25^\circ\text{C}$ | I_{FSM} | 35.0 | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V_F | 1.3 | | | Volts |
| Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ | I_R | 5.0 | | | μA |
| Maximum reverse recovery time (Note 1) | T_{rr} | 150 | 250 | | nS |
| Typical junction capacitance (Note 2) | C_J | 15.0 | | | ρF |
| Typical thermal resistance (Note 3) | $R_{\theta(JL)}$ | 25 | | | $^\circ\text{C/W}$ |
| Maximum operating junction temperature | T_J | -65 to +125 | | | $^\circ\text{C}$ |
| Maximum storage temperature | T_{STG} | -65 to +125 | | | $^\circ\text{C}$ |

Notes:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length P.C.B. mounted

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

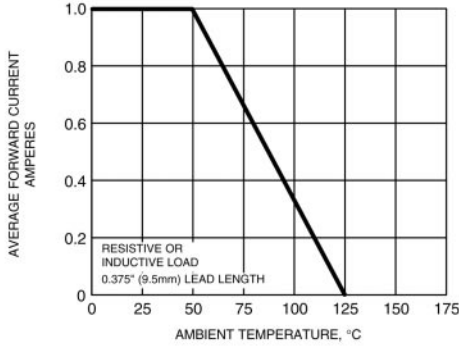


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

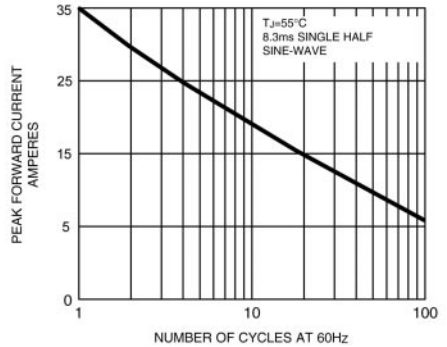


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

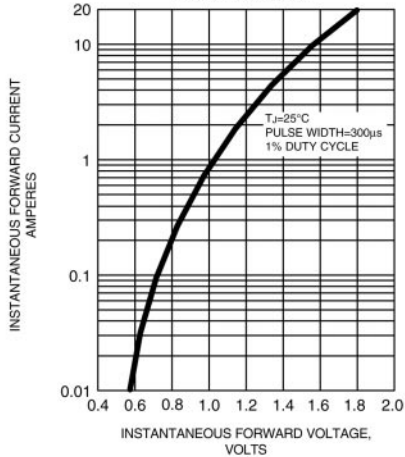


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

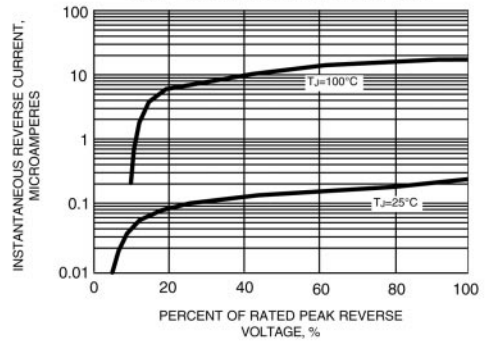


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

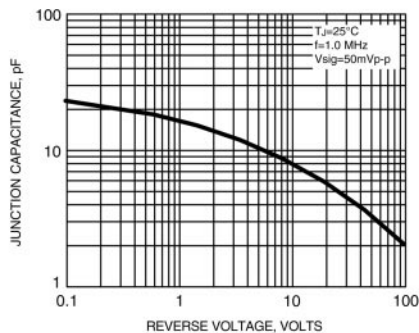


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

