Fast Diode

RoHS Compliant

Features:

- High surge current capability
- Void-free plastic in a DO-41 package
- 1A operation at T_A = 55°C with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228

Specifications:

Mechanical Data:

Case	: Moulded plastic, DO-41
Terminals	: Axial leads, solderable per MIL-STD-202, Method 208
Polarity	: Colour band denotes cathode
Mounting position	: Any
Weight	: 0.012 oz, 0.3g

Maximum Ratings and Electrical Characteristics:

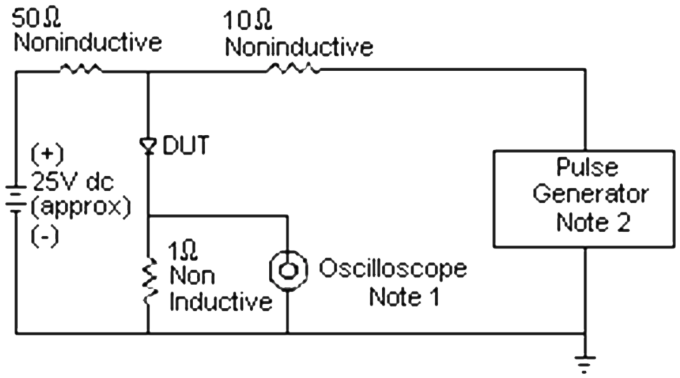
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

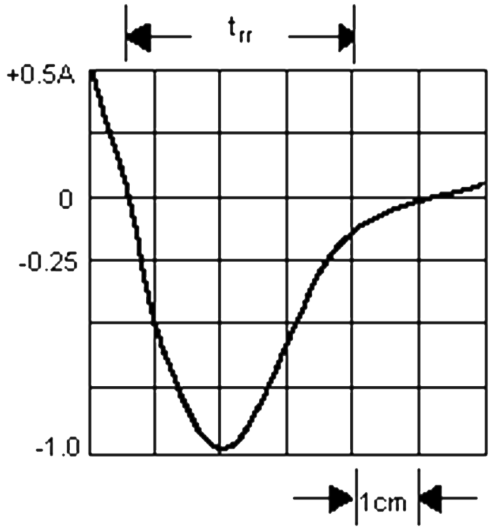
Parameters	BA157	BA159	Units
Maximum Recurrent Peak Reverse Voltage	400	1,000	V
Maximum RMS Voltage	280	700	
Maximum DC Blocking Voltage	400	1,000	
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at T_A = 55°C	1		A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	30		
Maximum Forward Voltage at 1A	1.3		V
Maximum reverse current T_J = 25°C at rated DC blocking voltage T_J = 100°C	5 500		µA

Parameters	BA157	BA159	Units
Typical Junction Capacitance (Note 1)	12		pF
Maximum reverse recovery time (Note 2)	150	250	°C/W
Operating and Storage Temperature Range	-50 to +150		°C

Notes:
1. Measured at 1MHz and applied reverse voltage of 4V.
2. Reverse recovery test conditions: I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A.

Ratings and Characteristic Curves





Set Time Base For 50nS/cm

Notes:
1. Rise Time = 7nS maximum Input Impedance = 1MΩ, 22pF
2. Rise Time = 10nS maximum Source Impedance = 50Ω

Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram

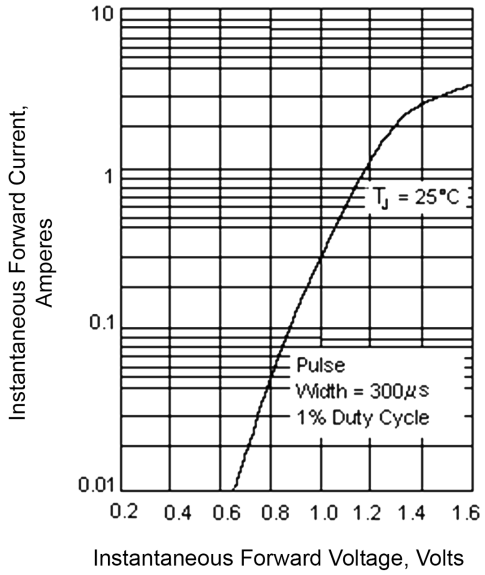


Figure 2 - Typical Instantaneous Forward Characteristics

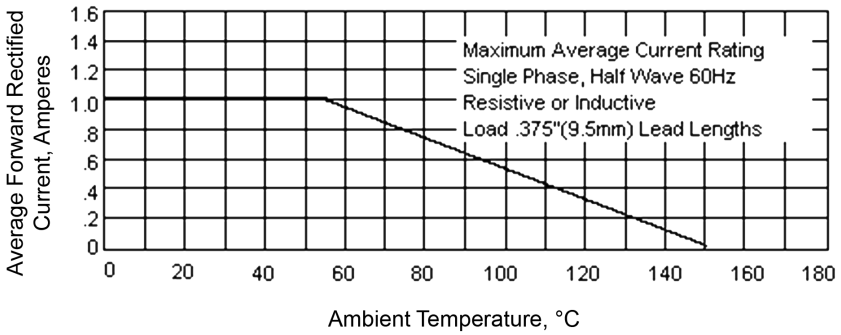


Figure 3 - Forward Current Derating Curve

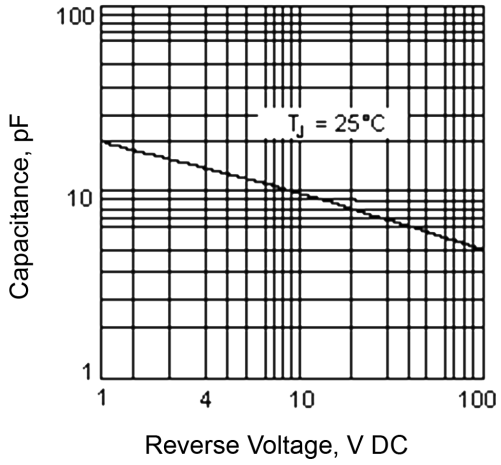


Figure 4 - Typical Junction Capacitance

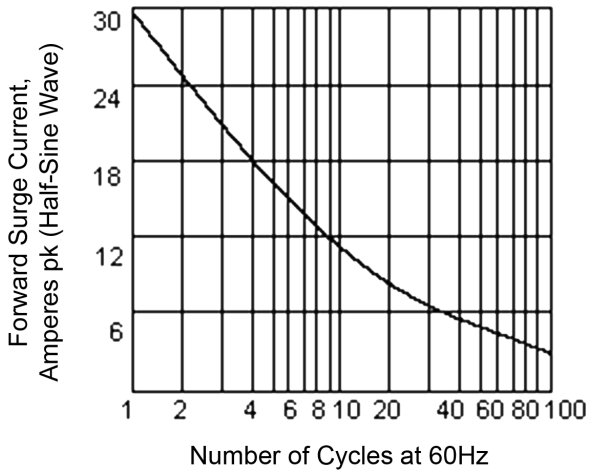
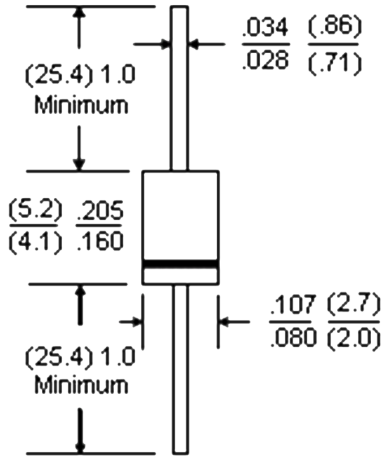


Figure 5 - Peak Forward Surge Current

DO-41



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Fast, 1A, 400V	BA157
Diode, Fast, 1A, 1,000V	BA159