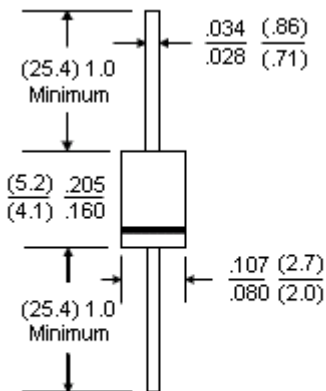


# BA157, 159

## Fast Switching Rectifiers



### DO-41



Dimensions : Inches (Millimetres)

### Features:

- High surge current capability.
- Void-free plastic in a DO-41 package.
- 1.0 Ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway.
- Fast switching for high efficiency.
- Exceeds environmental standards of MIL-S-19500/228.

### 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 ounce, 0.3 gram.

### Maximum Ratings and Electrical Characteristics

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

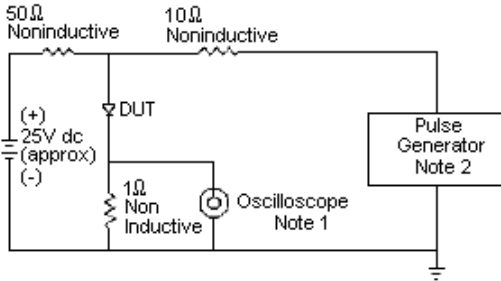
Parameter	BA157	BA159	Units
Maximum recurrent peak reverse voltage	400	1000	V
Maximum RMS voltage	280	700	
Maximum DC blocking voltage	400	1000	
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	1.0		A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	30		
Maximum forward voltage at 1.0A	1.3		V
Maximum reverse current $T_J = 25^\circ\text{C}$ at rated DC blocking voltage $T_J = 100^\circ\text{C}$	5.0 500		$\mu\text{A}$
Typical junction capacitance (Note 1)	12		pF
Maximum reverse recovery time (Note 2)	150	250	nS
Operating and storage temperature range	-55 to +150		$^\circ\text{C}$

### Notes:

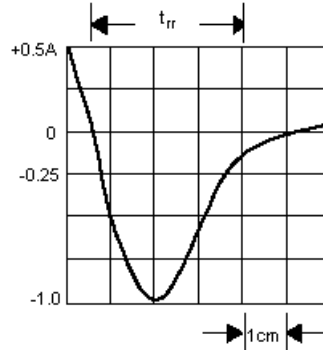
1. Measured at 1MHz and applied reverse voltage of 4.0V dc.
2. Reverse recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .



### Rating and Characteristics Curves



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



Set Time  
Base For  
50nS/cm

Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram

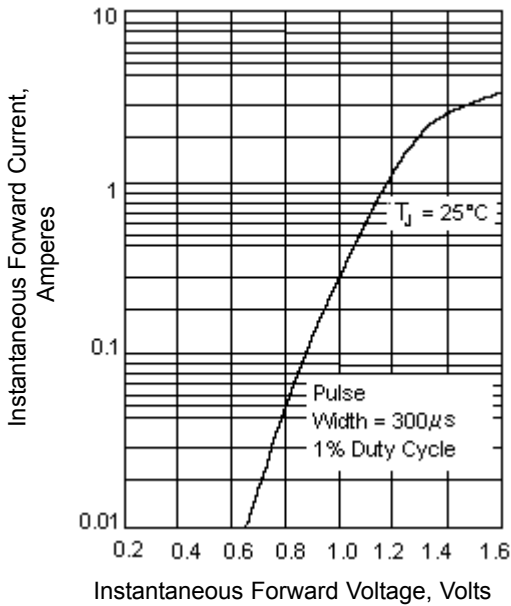


Figure 2 - Typical Instantaneous Forward Characteristics

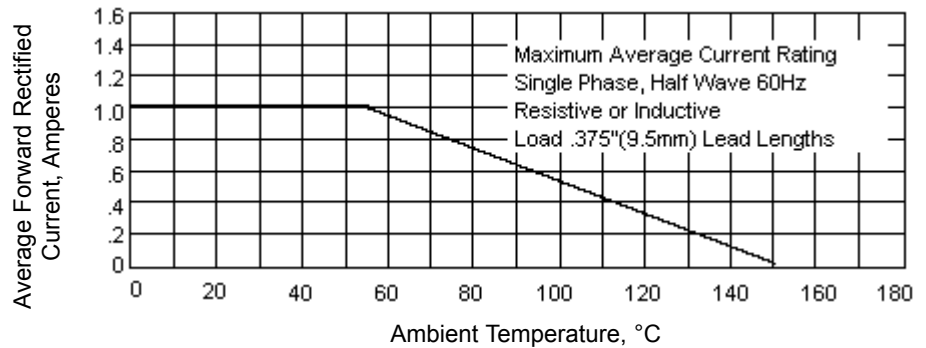


Figure 3 - Forward Current Derating Curve

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## Fast Switching Rectifiers

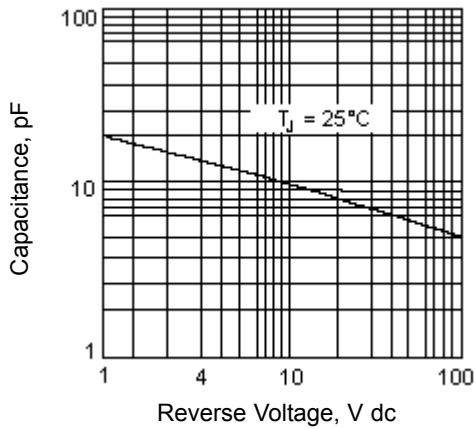


Figure 4 - Typical Junction Capacitance

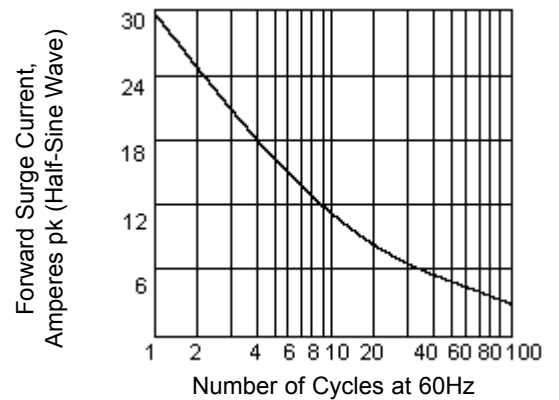


Figure 5 - Peak Forward Surge Current

### Specifications

$V_{RRM}$ maximum (V)	$I_{f(av)}$ (A)	$I_{FSM}$ (A)	$t_{rr}$ maximum (nS)	$V_F$ (V) at $I_F = 1A$	Length	Diameter	Part Number
400	1	30	150	1.3	5.2	2.7	BA157
1000			250				BA159

Dimensions : Millimetres



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## Fast Switching Rectifiers



### Notes:

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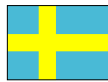
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