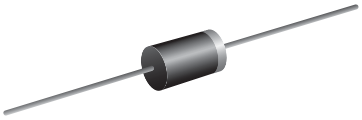
BA157 - BA159

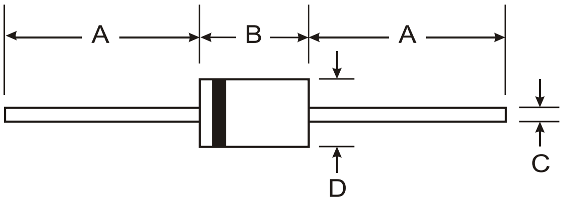
FAST RECOVERY RECTIFIER DIODES

VOLTAGE RANGE: 400 - 1000V
CURRENT: 1.0 A



Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability



Mechanical Data

- Case: D O - 4 1 Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

RoHS COMPLIANT

DO-41		
Dim	**Min**	**Max**
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics

$T_A = 25°C$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	BA157	BA158	BA159	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	400	600	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	280	420	700	V
Average Rectified Output Current (Note 1) @T_A = 55°C	I_O	1.0			A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30			A
Forward Voltage @I_F = 1.0A	V_{FM}	1.2			V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 100°C	I_{RM}	5.0 100			µA
Reverse Recovery Time (Note 2)	t_{rr}	150	250	500	nS
Typical Junction Capacitance (Note 3)	C_j	15			pF
Operating Temperature Range	T_j	-65 to +125			°C
Storage Temperature Range	T_{STG}	-65 to +150			°C

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case
2. Measured with IF = 0.5A, IR = 1.0A, IRR = 0.25A. See figure 5.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

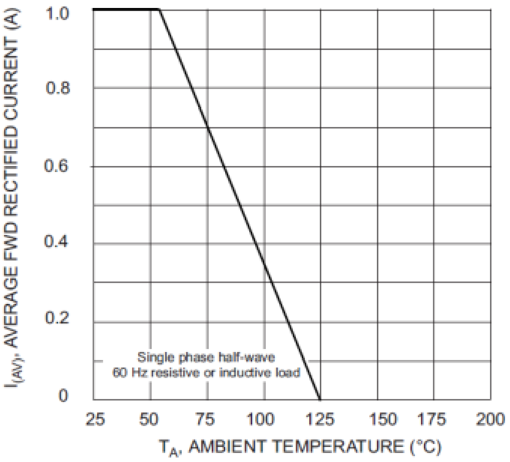


Fig. 1 Forward Derating Curve

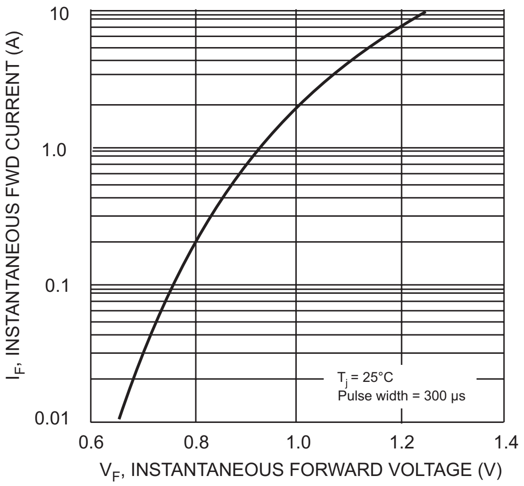


Fig. 2 Typical Forward Characteristics

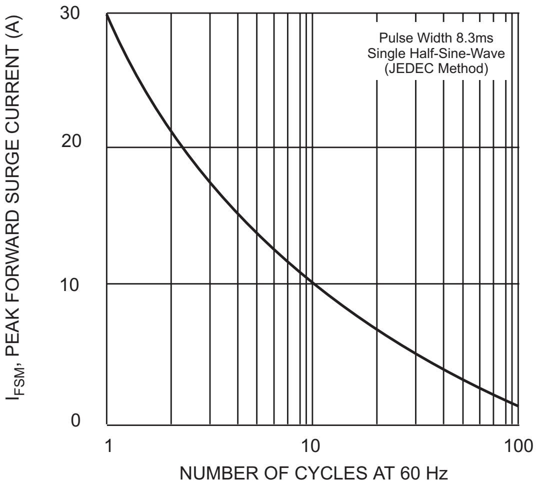


Fig. 3 Peak Forward Surge Current

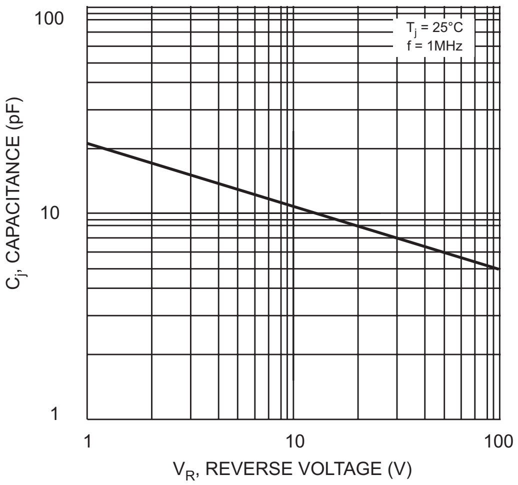
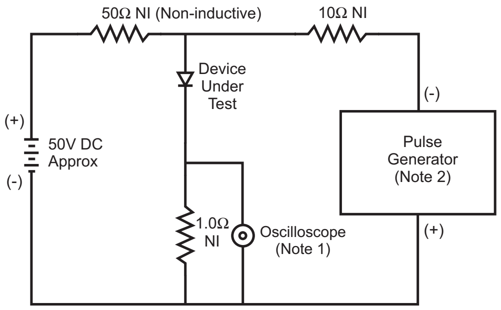
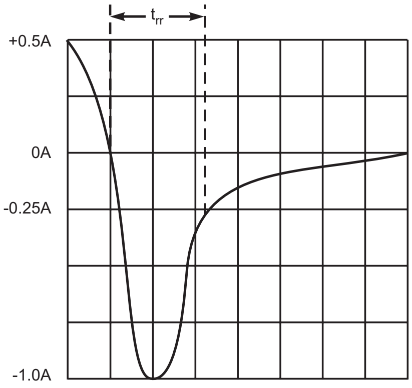


Fig. 4 Typical Junction Capacitance



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit