

## Features

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

## Mechanical Data

- Case: DO-41, 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
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



DO-41		
Dim	Min	Max
A	25.4	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

## Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ 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	$V_{RRM}$	400	600	1000	V
Working Peak Reverse Voltage	$V_{RWM}$				
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{R(RMS)}$	280	420	700	V
Average Rectified Output Current (Note 1)	$I_O$	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 @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	5.0 100			$\mu\text{A}$
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			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150			$^\circ\text{C}$

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

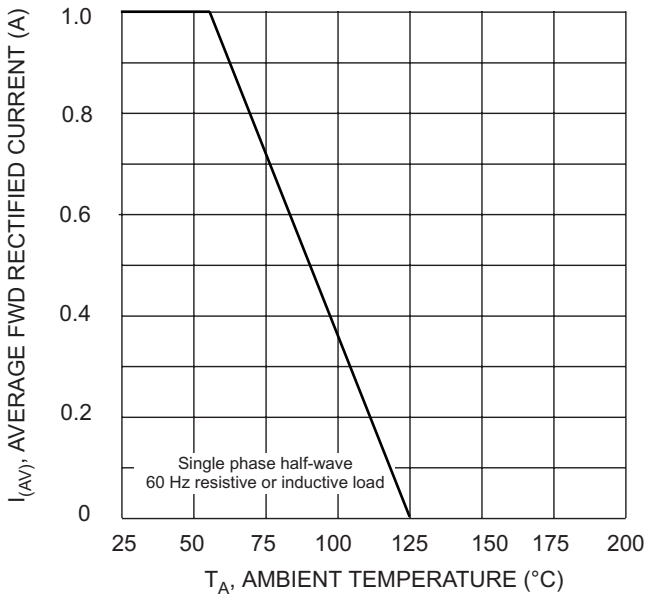


Fig. 1 Forward Derating Curve

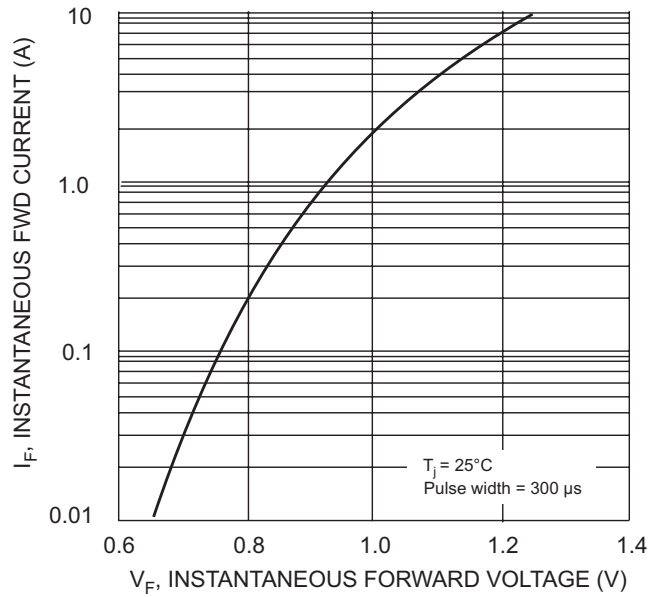


Fig. 2 Typical Forward Characteristics

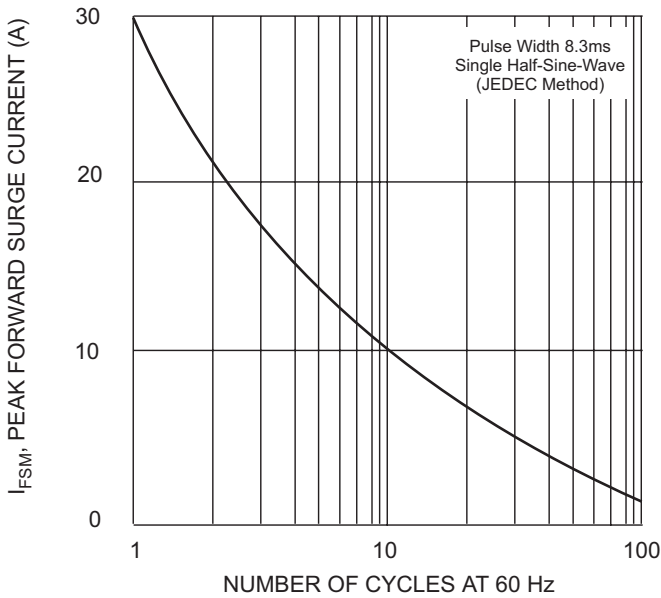


Fig. 3 Peak Forward Surge Current

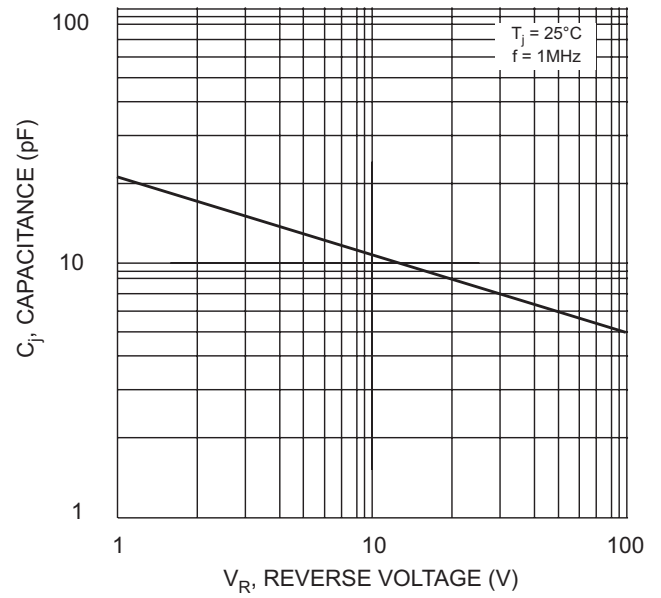
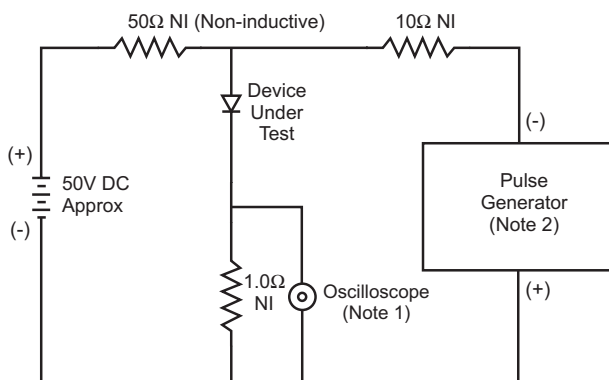
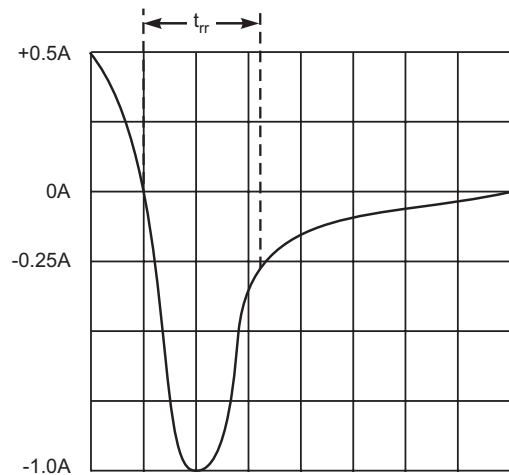


Fig. 4 Typical Junction Capacitance



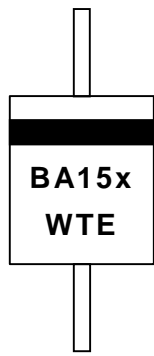
- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 5/10ns/cm

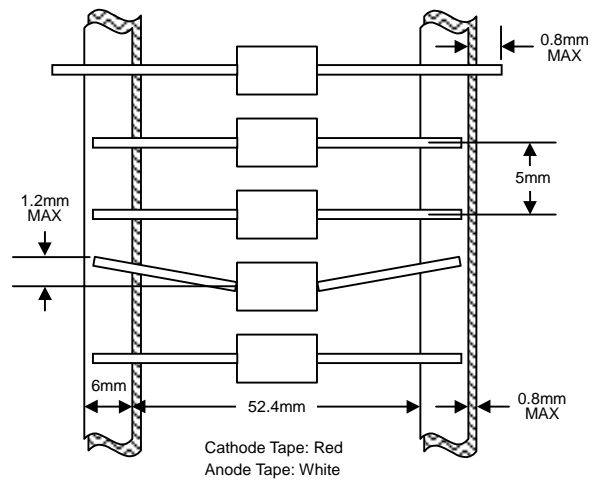
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## MARKING INFORMATION

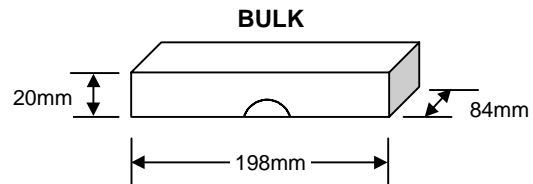
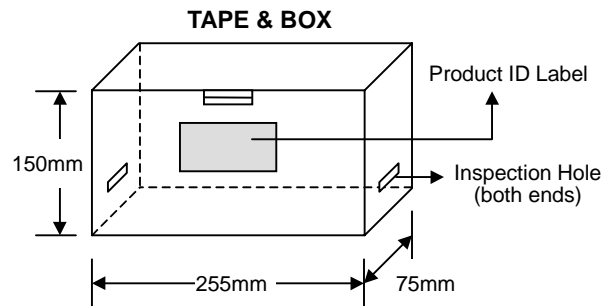
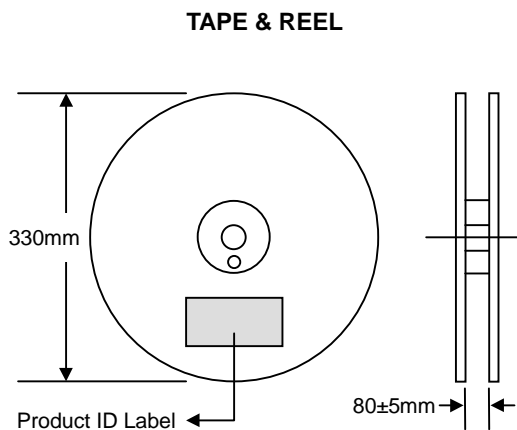


Cathode = Polarity Band  
 BA15x = Device Number  
 x = 7, 8 or 9  
 WTE = Manufacturer's Logo

## TAPING SPECIFICATIONS



## PACKAGING INFORMATION



Packaging	Reel Diameter / Box Size (mm)	Quantity (PCS)	Carton Size (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
<b>TAPE &amp; REEL</b>	330	5,000	370 x 370 x 420	25,000	13.0
<b>TAPE &amp; BOX</b>	255 x 75 x 150	5,000	400 x 273 x 415	50,000	21.0
<b>BULK</b>	198 x 84 x 20	1,000	459 x 214 x 256	50,000	19.5

**Note:** 1. Paper reel, white or gray color. Core material: plastic or metal.  
 2. Components are packed in accordance with EIA standard RS-296-E.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
BA157-T3	DO-41	5000/Tape & Reel
<b>BA157-TB</b>	DO-41	5000/Tape & Box
BA157	DO-41	1000 Units/Box
BA158-T3	DO-41	5000/Tape & Reel
<b>BA158-TB</b>	DO-41	5000/Tape & Box
BA158	DO-41	1000 Units/Box
BA159-T3	DO-41	5000/Tape & Reel
<b>BA159-TB</b>	DO-41	5000/Tape & Box
BA159	DO-41	1000 Units/Box

1. Products listed in **bold** are WTE **Preferred** devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BA157-TB-LF.**

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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