

# 1N4933 - 1N4937

## Features

- Low forward voltage drop.
- High surge current capability.
- High reliability.
- High current capability.



**DO-41**

COLOR BAND DENOTES CATHODE

## 1.0 Ampere Fast Recovery Rectifiers

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Value	Units
$I_{F(AV)}$	Average Rectified Current .375 " lead length @ $T_A = 50^\circ\text{C}$	1.0	A
$I_{FSM}$	Non-repetitive Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	30	A
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	2.5 20	W mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	50	$^\circ\text{C}/\text{W}$
$T_{stg}$	Storage Temperature Range	-50 to +150	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-50 to +150	$^\circ\text{C}$

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

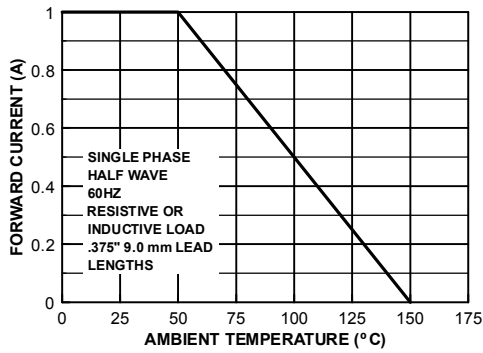
### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

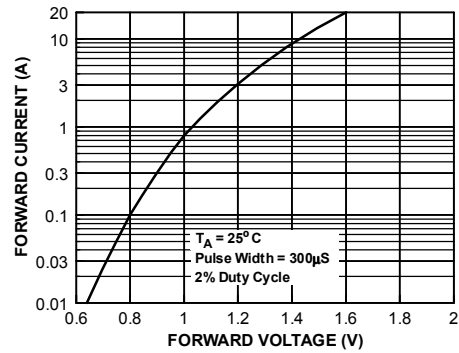
Symbol	Parameter	Device					Units
		4933	4934	4935	4936	4937	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	100	200	400	600	V
$V_{RMS}$	Maximum RMS Voltage	35	70	140	280	420	V
$V_R$	DC Reverse Voltage (Rated $V_R$ )	50	100	200	400	600	V
$I_R$	Maximum Instantaneous Reverse Current @ rated $V_R$ $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	5.0 100					$\mu\text{A}$ $\mu\text{A}$
$t_{rr}$	Maximum Instantaneous Reverse Recovery Time $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RR} = 0.25\text{ A}$	150					ns
$V_{FM}$	Maximum Forward Voltage @ 1.0 A	1.2					V
C	Typical Junction Capacitance $V_R = 4.0\text{ V}$ , $f = 1.0\text{ MHz}$	12					pF

## Typical Characteristics

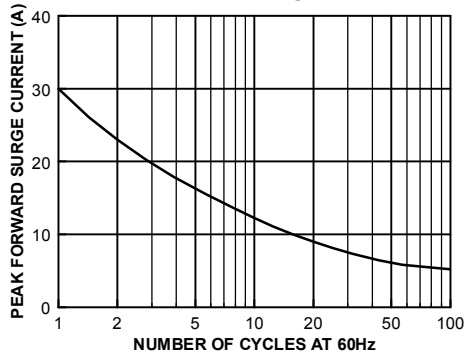
Forward Current Derating Curve



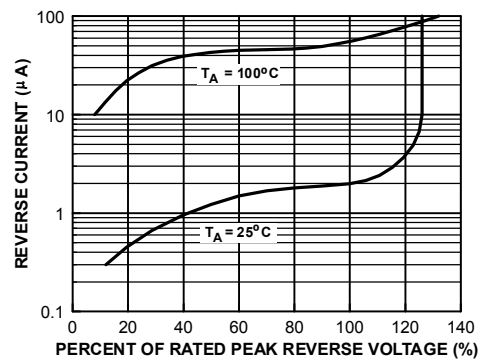
Forward Characteristics



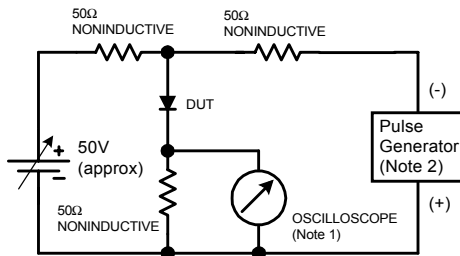
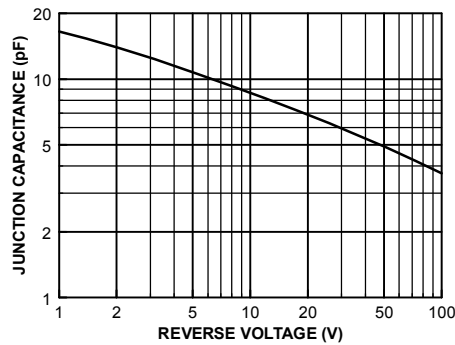
Non-Repetitive Surge Current



Reverse Characteristics

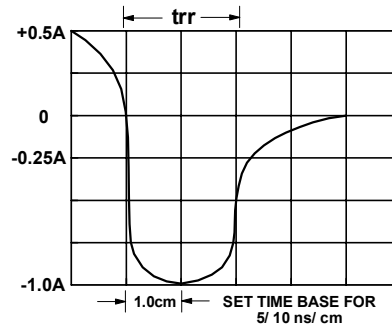


Typical Junction Capacitance



NOTES:

1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.

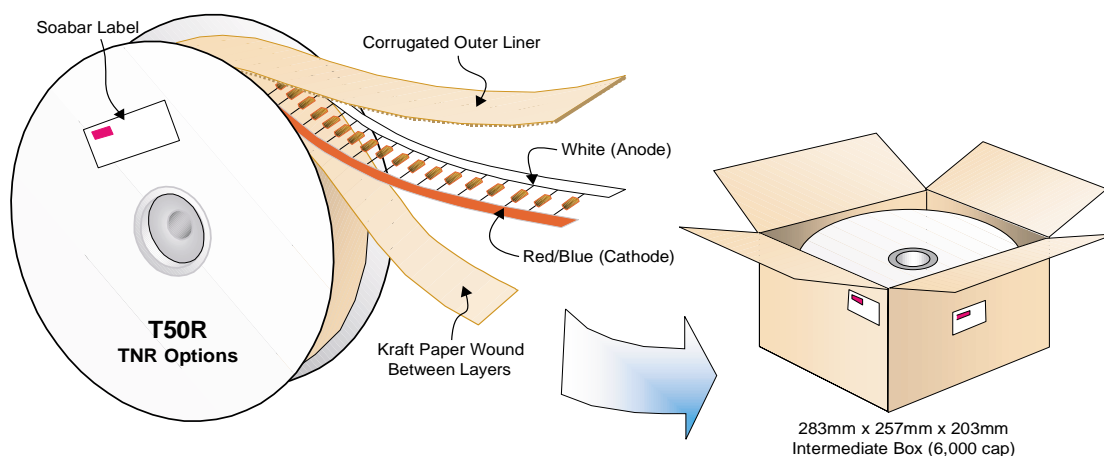


Reverse Recovery Time Characteristic and Test Circuit Diagram

## DO-41 (Glass) Tape and Ammo Data



### DO-41 (Glass) Packaging Configuration: Figure 1.0



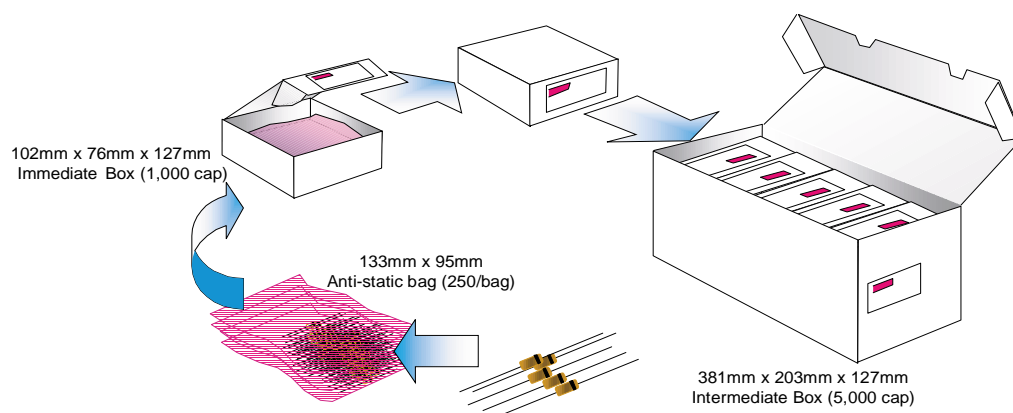
### DO-41 (Glass) Packaging Information Table : Figure 2.0

DO-41 (Glass) Packaging Information			
Packaging Option	T50R	T50A	Standard (no flow code)
Packaging type	TNR	Ammo	Bag
Qty per Reel/Tube/Bag	3,000	3,000	250
Reel Size (inch diameter)	10.5	-	-
Inside Tape Spacing (mm)	52	52	-
Int Box Dimension (mm)	283x257x203	406x267x184	381x203x127
Max qty per Box	6,000	30,000	5,000
Weight per unit (gm)	0.320	0.320	0.320
Weight per Reel (kg)	1.356	1.077	-
Note/Comments			Bulk

#### Soabar Label sample

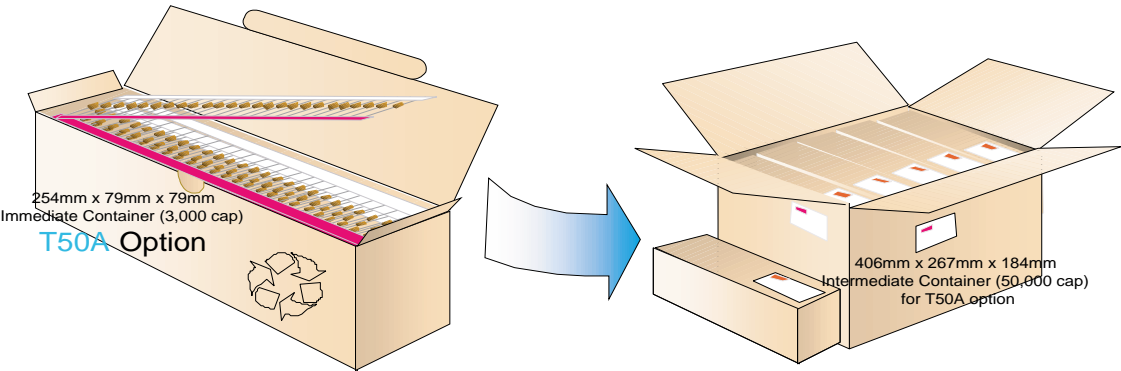
<b>FAIRCHILD</b> SEMICONDUCTOR™		P.O. No.	
TYPE	1N4744A	MARK	BLK-BRN
REV	A2	PART No.	
PKG		EC No.	
QTY	3,000	M.O. No.	OX5046F035
Q.C.		DATE	D9903
MFD. UNDER US PAT 3,025,589 & OTHER US PATS & APPLICATIONS			

### DO-41 (Glass) Bulk Packing Configuration: Figure 3.0

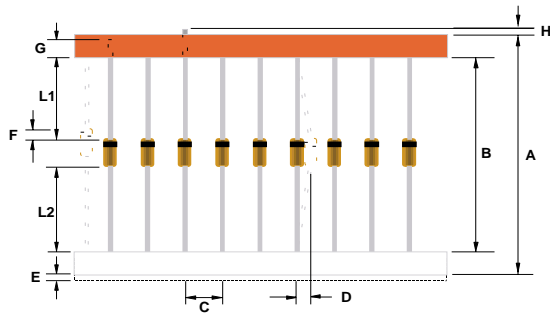


# DO-41 (Glass) Tape and Ammo Data, continued

## DO-41 (Glass) Ammo Packing Configuration: Figure 4.0



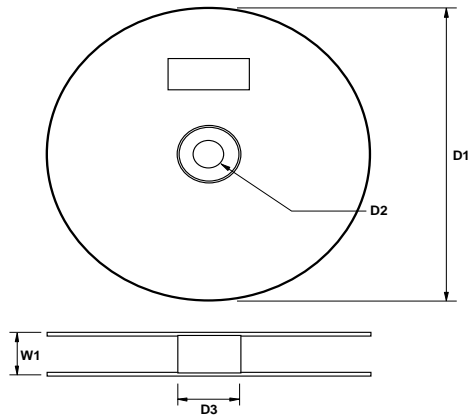
## DO-41 (Glass) Taping Dimension: Figure 5.0



### TAPING DIMENSIONS

	INCH	MM	MILS	NOTES
A	2.520 +0.066/ -0.027	64.00 +1.69/ -0.69	2519 +66.5/ -27.0	Overall width
B	2.047±0.027	52 ±0.69	2047±27	Inside Tape Spacing
C	0.200 ±0.0157	5.08 ±0.40	200 ±15.7	Component Pitch
D	0.047(max)	1.2(max)	47(max)	Component Misalignment
E	0.022(max)	0.55(max)	22(max)	Tape Mismatch
F	0.027(max)	±0.69	±27	Units in line w/ one another
G	0.126(min)	3.2(min)	126(min)	Lead amount between tapes
H	0	0	0	Lead amount beyond tapes
L1-L2	±0.027	±0.69	±27	Delta between two leads

## DO-41 (Glass) Reel Dimension: Figure 6.0



### REEL DIMENSIONS

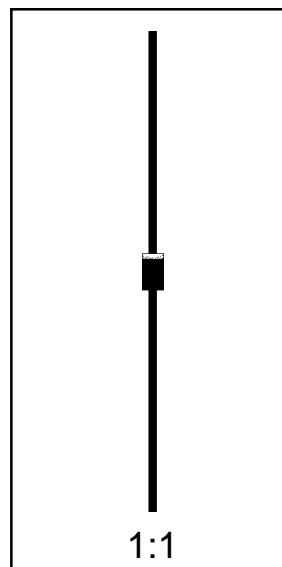
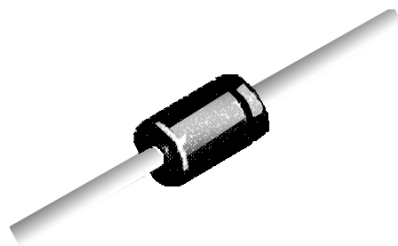
ITEM DESCRIPTION	SYMBOL	MINIMUM	MAXIMUM
Reel Diameter	D1	10.375	10.625
Arbor Hole Diameter (Standard)	D2	1.245	1.255
Core Diameter	D3	3.190	3.310
Flange to Flange Outer Width	W1		3.400

Note: All Dimensions are in inches

## DO-41 (Glass) Package Dimensions



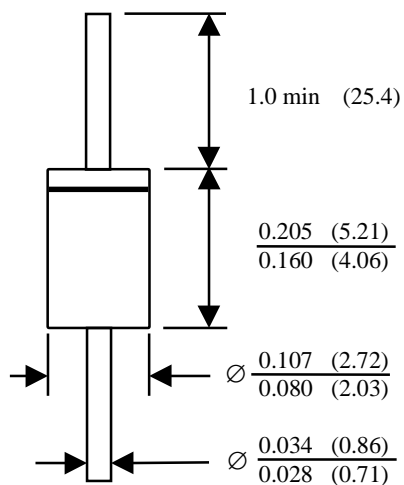
### DO-41 (FS PKG Code D4)



Scale 1:1 on letter size paper

Dimensions shown below are in:  
inches [millimeters]

Part Weight per unit (gram): 0.32



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DOME™	ISOPLANAR™	Quiet Series™	
E <sup>2</sup> CMOS™	MICROWIRE™	SILENT SWITCHER®	
EnSigna™	OPTOLOGIC™	SMART START™	
FACT™	OPTOPLANAR™	SuperSOT™-3	
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