

BAV19 / 20 / 21



DO-35

High Voltage General Purpose Diode

Sourced from Process 1J.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
W _{IV}	Working Inverse Voltage	BAV19	100
		BAV20	150
		BAV21	200
I _O	Average Rectified Current	200	mA
I _F	DC Forward Current	500	mA
i _f	Recurrent Peak Forward Current	600	mA
i _{f(surge)}	Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond	1.0	A
		4.0	A
T _{stg}	Storage Temperature Range	-65 to +200	°C
T _J	Operating Junction Temperature	175	°C

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

NOTES:

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BAV19 / 20 / 21	
P _D	Total Device Dissipation Derate above 25°C	500	mW
		3.33	mW/°C
R _{θJA}	Thermal Resistance, Junction to Ambient	300	°C/W

High Voltage General Purpose Diode

(continued)

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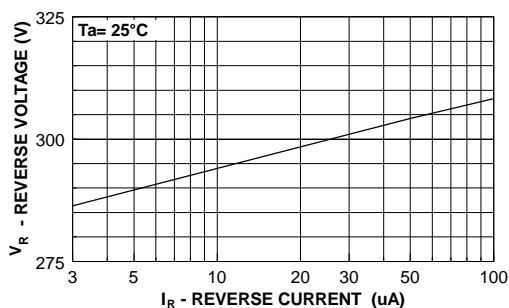
Electrical Characteristics

TA = 25°C unless otherwise noted

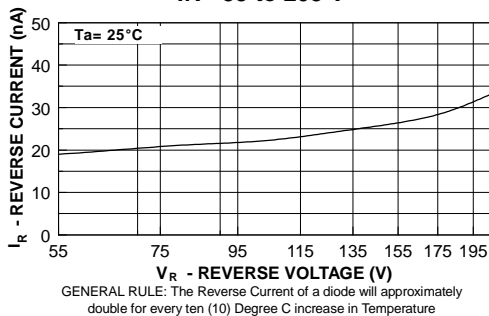
Symbol	Parameter	Test Conditions	Min	Max	Units
BV	Breakdown Voltage	BAV19 $I_R = 100 \mu A$	120		V
		BAV20 $I_R = 100 \mu A$	200		V
		BAV21 $I_R = 100 \mu A$	250		V
IR	Reverse Current	BAV19 $V_R = 100 V$		100	nA
		BAV20 $V_R = 100 V, T_A = 150^\circ C$		100	μA
		BAV20 $V_R = 150 V$		100	nA
		BAV21 $V_R = 150 V, T_A = 150^\circ C$		100	μA
		BAV21 $V_R = 200 V$		100	nA
		$V_R = 200 V, T_A = 150^\circ C$		100	μA
VF	Forward Voltage	$I_F = 100 mA$		1.0	V
		$I_F = 200 mA$		1.25	V
CO	Diode Capacitance	$V_R = 0, f = 1.0 MHz$		5.0	pF
T _{RR}	Reverse Recovery Time	$I_F = I_R = 30 mA, I_{RR} = 3.0 mA,$ $R_L = 100\Omega$		50	nS

Typical Characteristics

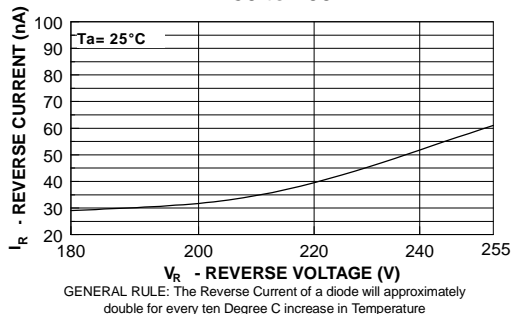
REVERSE VOLTAGE vs REVERSE CURRENT
BV - 1.0 to 100 μA



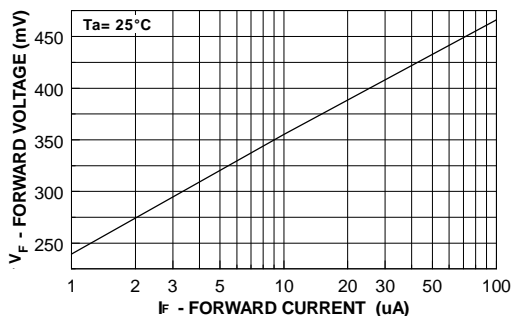
REVERSE CURRENT vs REVERSE VOLTAGE
IR - 55 to 205 V



REVERSE CURRENT vs REVERSE VOLTAGE
IR - 180 to 255 V



FORWARD VOLTAGE vs FORWARD CURRENT
VF - 1.0 to 100 μA



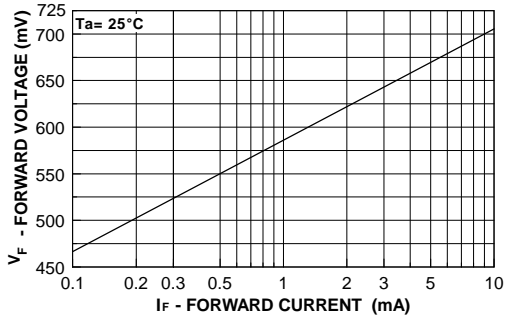
High Voltage General Purpose Diode

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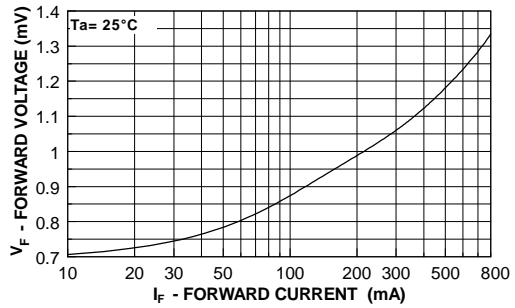
BAV19 / BAV20 / BAV21

Typical Characteristics (continued)

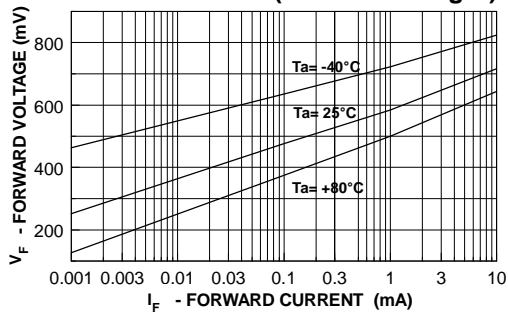
FORWARD VOLTAGE vs FORWARD CURRENT
VF - 0.1 to 10 mA



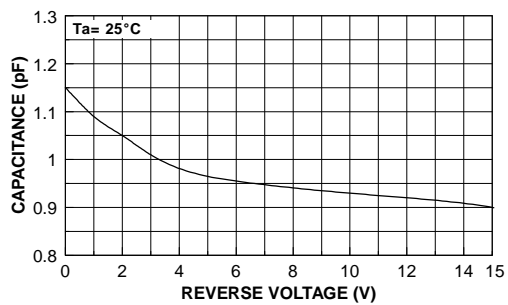
FORWARD VOLTAGE vs FORWARD CURRENT
VF - 10 to 800 mA



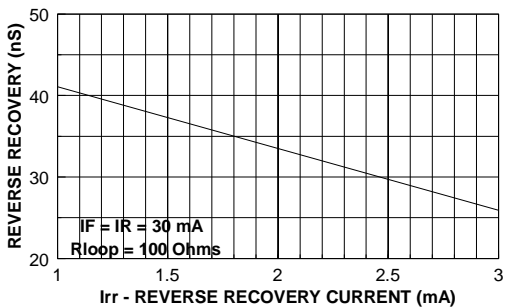
Forward Voltage vs Ambient Temperature
VF - 1.0 uA - 10 mA (-40 to + 80 Deg C)



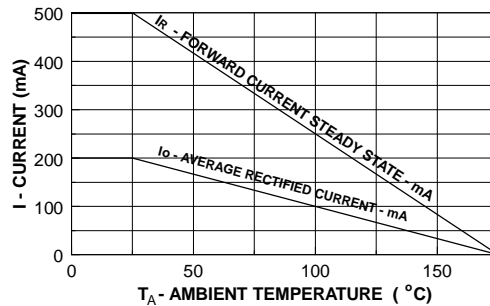
CAPACITANCE vs REVERSE VOLTAGE
VR - 0 to 15 V



REVERSE RECOVERY TIME vs REVERSE RECOVERY CURRENT (Irr)



Average Rectified Current (Io) & Forward Current (Ir) versus Ambient Temperature (TA)

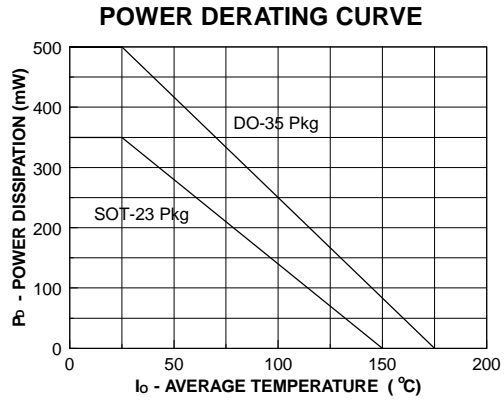


High Voltage General Purpose Diode

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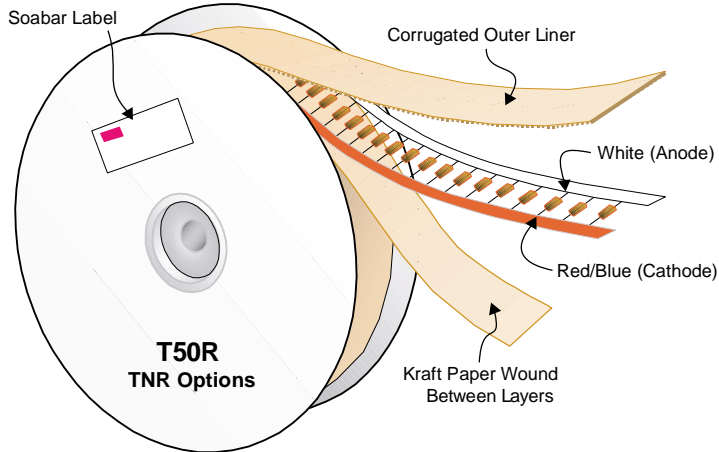
Typical Characteristics (continued)



DO-35 Tape and Reel Data and Package Dimensions



DO-35 Packaging Configuration: Figure 1.0



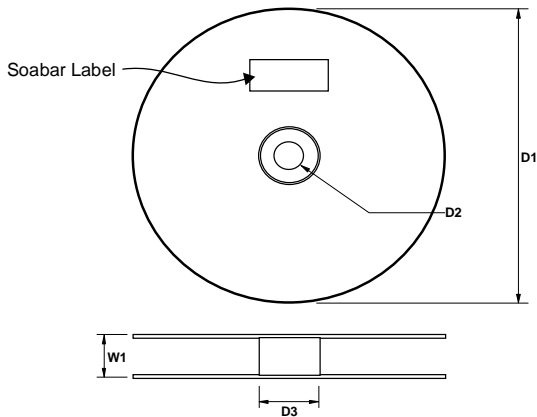
DO-35 Packaging Information Table: Figure 2.0

DO-35 Packaging Information			
Packaging Option	T50R	T50A	Standard (no flow code)
Packaging type	TNR	Ammo	Bag
Qty per Reel/Tube/Bag	10,000	5,000	500
Reel Size (inch diameter)	13	-	-
Inside Tape Spacing (mm)	52	52	-
Int Box Dimension (mm)	254x79x794	406x267x184	279x133x108
Max qty per Box	30,000	50,000	5,000
Weight per unit (gm)	0.137	0.137	0.137
Weight per Reel/Ammo (kg)	2.23	0.800	-
Note/Comments			Bulk

Soabar Label sample

FAIRCHILD SEMICONDUCTOR		P.O. No.	
TYPE	IN5225A	MARK	BLK-BRN
REV	A2	PART No.	
PKG		EC No.	
QTY	10,000	M.O. No.	OX5046F035
Q.C.		DATE	D9903
MFD. UNDER US PAT 3,025,589 & OTHER US PATS & APPLICATIONS			

DO-35 Reel Dimensions: Figure 3.0



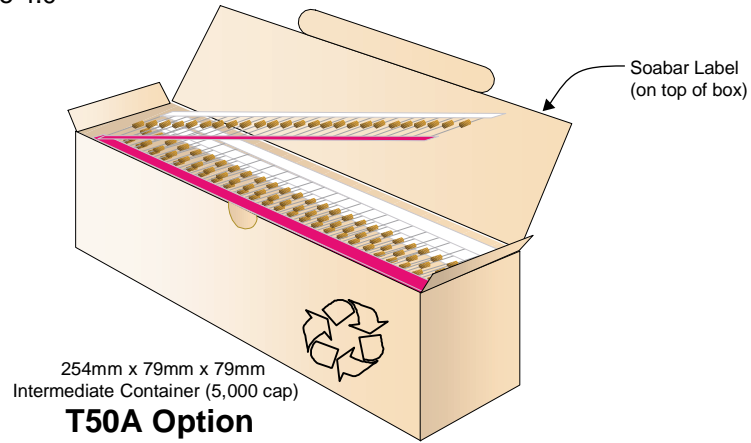
REEL DIMENSIONS

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 Inner Width	W1		3.400

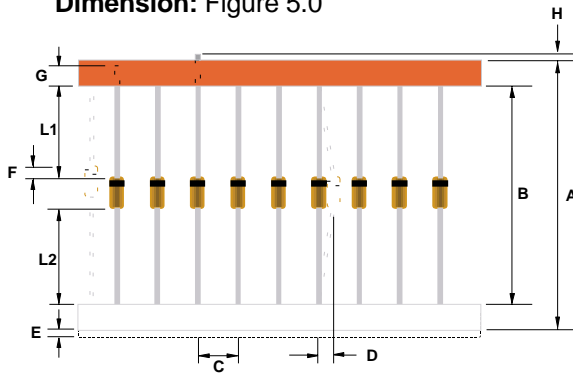
Note: All Dimensions are in inches

DO-35 Tape and Ammo Data and Package Dimensions

DO-35 Ammo Packing Configuration: Figure 4.0



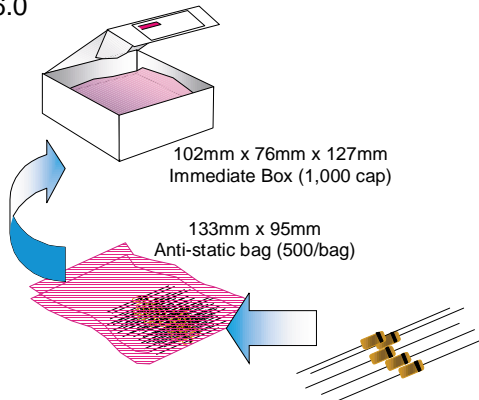
DO-35 Taping Dimension: Figure 5.0



TAPING DIMENSIONS

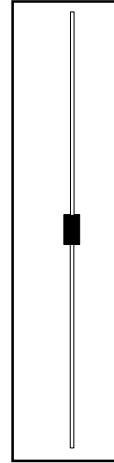
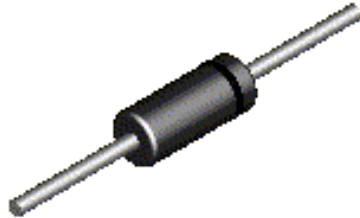
	INCH	MM	MILS	NOTES
A	2.520 +0.066/ -0.027	64.00 +1.69/ -0.69	2519 +66.5/ -27.0	Overall width
B	2.047±0.027	52 ±0.69	2047±27	Inside Tape Spacing
C	0.200 ±0.0157	5.08 ±0.40	200 ±15.7	Component Pitch
D	0.047(max)	1.2(max)	47(max)	Component Misalignment
E	0.022(max)	0.55(max)	22(max)	Tape Mismatch
F	0.027(max)	±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-35 Bulk Packing Configuration: Figure 6.0



DO-35 Tape and Reel Data and Package Dimensions, continued

DO-35 (FS PKG Code D2)

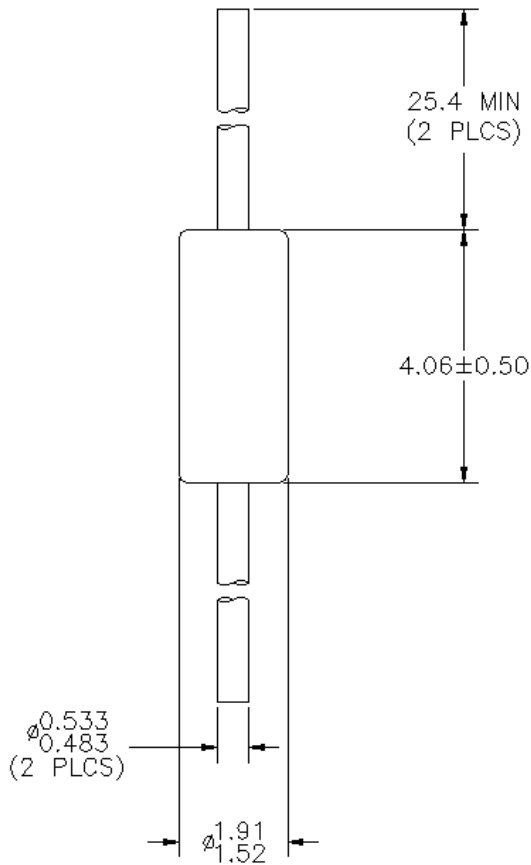


1:1

Scale 1:1 on letter size paper

Dimensions shown below are in millimeters

Part Weight per unit (gram): 0.137



NOTES: UNLESS OTHERWISE SPECIFIED

- A) THIS PACKAGE CONFORMS TO JEDEC DO-204, VAR. AH, ISSUE B, DATED JANUARY 20, 1976.
- B) HERMITICALLY SEALED GLASS PACKAGE.
- C) PACKAGE WEIGHT IS 0.137 GRAM.
- D) ALL DIMENSIONS ARE IN MILLIMETERS.

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