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ON Semiconductor®

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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

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December 2018

1N5221B - 1N5263B
Zener Diodes

Tolerance = 5%



DO-35 Glass case
COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	500	mW
	Derate above 50°C	4.0	mW°C
T_{STG}	Storage Temperature Range	-65 to +200	°C
T_J	Operating Junction Temperature Range	-65 to +200	°C
	Lead Temperature (1/16 inch from case for 10 s)	+230	°C

Note:

1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
   Non-recurrent square wave Pulse Width = 8.3 ms, T_A = 50°C

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Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted .

Device	V_Z (V) @ I_Z (2)			Z_Z (Ω) @ I_Z (mA)		Z_{ZK} (Ω) @ I_{ZK}(mA)		I_R (μA) @ V_R (V)		T_C (%/°C)
	Min.	Typ.	Max.							
1N5221B	2.28	2.4	2.52	30	20	1,200	0.25	100	1.0	-0.085
1N5222B	2.375	2.5	2.625	30	20	1,250	0.25	100	1.0	-0.085
1N5223B	2.565	2.7	2.835	30	20	1,300	0.25	75	1.0	-0.080
1N5224B	2.66	2.8	2.94	30	20	1,400	0.25	75	1.0	-0.080
1N5225B	2.85	3	3.15	29	20	1,600	0.25	50	1.0	-0.075
1N5226B	3.135	3.3	3.465	28	20	1,600	0.25	25	1.0	-0.07
1N5227B	3.42	3.6	3.78	24	20	1,700	0.25	15	1.0	-0.065
1N5228B	3.705	3.9	4.095	23	20	1,900	0.25	10	1.0	-0.06
1N5229B	4.085	4.3	4.515	22	20	2,000	0.25	5.0	1.0	+/-0.055
1N5230B	4.465	4.7	4.935	19	20	1,900	0.25	5.0	2.0	+/-0.03
1N5231B	4.845	5.1	5.355	17	20	1,600	0.25	5.0	2.0	+/-0.03
1N5232B	5.32	5.6	5.88	11	20	1,600	0.25	5.0	3.0	0.038
1N5233B	5.7	6	6.3	7.0	20	1,600	0.25	5.0	3.5	0.038
1N5234B	5.89	6.2	6.51	7.0	20	1,000	0.25	5.0	4.0	0.045
1N5235B	6.46	6.8	7.14	5.0	20	750	0.25	3.0	5.0	0.05
1N5236B	7.125	7.5	7.875	6.0	20	500	0.25	3.0	6.0	0.058
1N5237B	7.79	8.2	8.61	8.0	20	500	0.25	3.0	6.5	0.062
1N5238B	8.265	8.7	9.135	8.0	20	600	0.25	3.0	6.5	0.065
1N5239B	8.645	9.1	9.555	10	20	600	0.25	3.0	7.0	0.068
1N5240B	9.5	10	10.5	17	20	600	0.25	3.0	8.0	0.075
1N5241B	10.45	11	11.55	22	20	600	0.25	2.0	8.4	0.076
1N5242B	11.4	12	12.6	30	20	600	0.25	1.0	9.1	0.077
1N5243B	12.35	13	13.65	13	9.5	600	0.25	0.5	9.9	0.079
1N5244B	13.3	14	14.7	15	9.0	600	0.25	0.1	10	0.080
1N5245B	14.25	15	15.75	16	8.5	600	0.25	0.1	11	0.082
1N5246B	15.2	16	16.8	17	7.8	600	0.25	0.1	12	0.083
1N5247B	16.15	17	17.85	19	7.4	600	0.25	0.1	13	0.084
1N5248B	17.1	18	18.9	21	7.0	600	0.25	0.1	14	0.085
1N5249B	18.05	19	19.95	23	6.6	600	0.25	0.1	14	0.085
1N5250B	19	20	21	25	6.2	600	0.25	0.1	15	0.086
1N5251B	20.9	22	23.1	29	5.6	600	0.25	0.1	17	0.087
1N5252B	22.8	24	25.2	33	5.2	600	0.25	0.1	18	0.088
1N5253B	23.75	25	26.25	35	5.0	600	0.25	0.1	19	0.088
1N5254B	25.65	27	28.35	41	4.6	600	0.25	0.1	21	0.089
1N5255B	26.6	28	29.4	44	4.5	600	0.25	0.1	21	0.090
1N5256B	28.5	30	31.5	49	4.2	600	0.25	0.1	23	0.09
1N5257B	31.35	33	34.65	58	3.8	700	0.25	0.1	25	0.092
1N5258B	34.2	36	37.8	70	3.4	700	0.25	0.1	27	0.093
1N5259B	37.05	39	40.95	80	3.2	800	0.25	0.1	30	0.094
1N5260B	40.85	43	45.15	93	3.0	900	0.25	0.1	33	0.095
1N5261B	44.65	47	49.35	105	2.7	1000	0.25	0.1	36	0.095
1N5262B	48.45	51	53.55	125	2.5	1100	0.25	0.1	39	0.096
1N5263B	53.2	56	58.8	150	2.2	1300	0.25	0.1	43	0.096
V_F Forward Voltage = 1.2V Max. @ I_F = 200mA										

Note:

2. Zener Voltage (V_Z)
   The zener voltage is measured with the device junction in the thermal equilibrium at the lead temperature (T_L) at 30°C ± 1°C and 3/8" lead length.

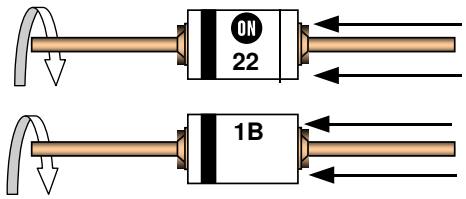
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Top Mark Information

Device	Line 1	Line 2	Line 3
1N5221B	LOGO	22	1B
1N5222B	LOGO	22	2B
1N5223B	LOGO	22	3B
1N5224B	LOGO	22	4B
1N5225B	LOGO	22	5B
1N5226B	LOGO	22	6B
1N5227B	LOGO	22	7B
1N5228B	LOGO	22	8B
1N5229B	LOGO	22	9B
1N5230B	LOGO	23	0B
1N5231B	LOGO	23	1B
1N5232B	LOGO	23	2B
1N5233B	LOGO	23	3B
1N5234B	LOGO	23	4B
1N5235B	LOGO	23	5B
1N5236B	LOGO	23	6B
1N5237B	LOGO	23	7B
1N5238B	LOGO	23	8B
1N5239B	LOGO	23	9B
1N5240B	LOGO	24	0B
1N5241B	LOGO	24	1B
1N5242B	LOGO	24	2B
1N5243B	LOGO	24	3B
1N5244B	LOGO	24	4B
1N5245B	LOGO	24	5B
1N5246B	LOGO	24	6B
1N5247B	LOGO	24	7B
1N5248B	LOGO	24	8B
1N5249B	LOGO	24	9B
1N5250B	LOGO	25	0B
1N5251B	LOGO	25	1B
1N5252B	LOGO	25	2B
1N5253B	LOGO	25	3B
1N5254B	LOGO	25	4B
1N5255B	LOGO	25	5B
1N5256B	LOGO	25	6B
1N5257B	LOGO	25	7B
1N5258B	LOGO	25	8B
1N5259B	LOGO	25	9B
1N5260B	LOGO	26	0B
1N5261B	LOGO	26	1B
1N5262B	LOGO	26	2B
1N5263B	LOGO	26	3B

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Top Mark Information (Continued)



1st line: ON Semiconductor Logo

2nd line: Device Name - 4th to 5th characters of the device name.
or 5th to 6th characters for BZXyy series

3rd line: Device Name - 6th to 7th characters of the device name.
or Voltage rating for BZXyy series

General Requirements:

1.0 Cathode Band

2.0 First Line: ON Semiconductor Logo

3.0 Second Line: Device name - For 1Nxx series: 4th to 5th characters of the device name.
For BZxx series: 5th to 6th characters of the device name.

4.0 Third Line: Device name - For 1Nxx series: 6th to 7th characters of the device name.
For BZXyy series: Voltage rating

5.0 Devices shall be marked as required in the device specification (PID or ON Test Spec).

6.0 Maximum no. of marking lines: 3

7.0 Maximum no. of digits per line: 2

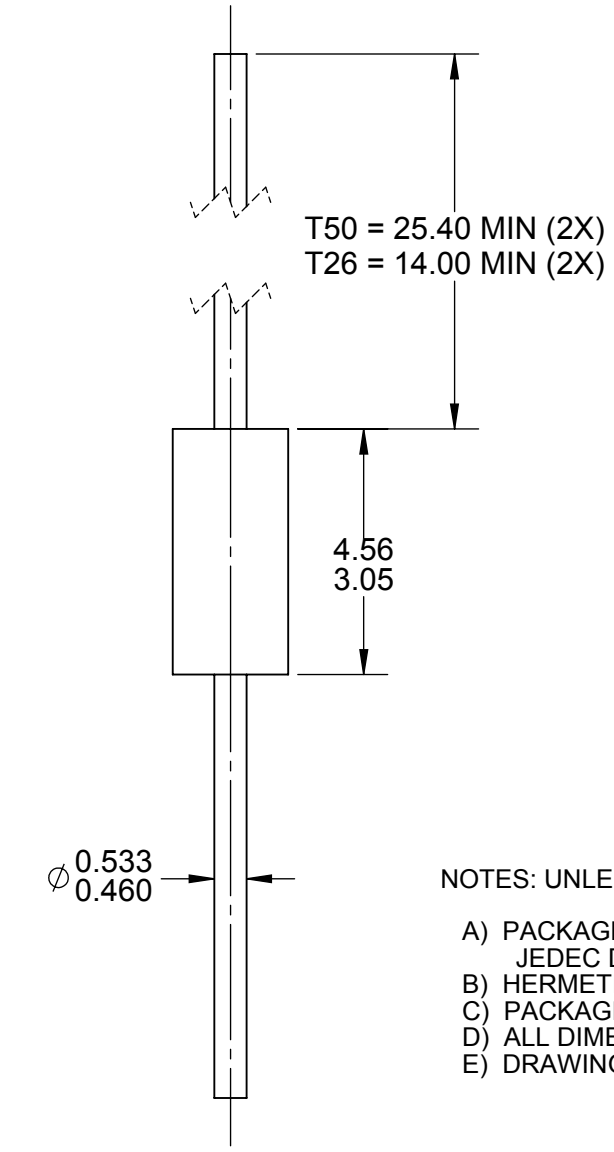
8.0 FSC logo must be 20 % taller than the alphanumeric marking and should occupy the 2 characters of the specified line.

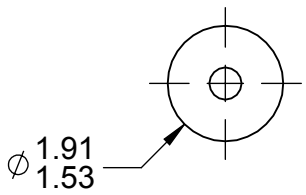
9.0 Marking Font: Arial (Except ON Logo)

10.0 First character of each marking line must be aligned vertically.

11.0 All device markings must be based on ON Semiconductor device specification.

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NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:
JEDEC DO-204, VARIATION AH.
B) HERMETICALLY SEALED GLASS PACKAGE.
C) PACKAGE WEIGHT IS 0.137 GRAM.
D) ALL DIMENSIONS ARE IN MILLIMETERS.
E) DRAWING FILE NAME: DO35AREV03

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