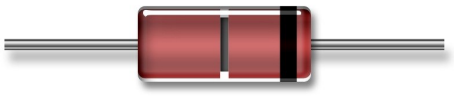
1N3821A(UR)-1 thru 1N3828A(UR)-1 & 1N3016B(UR)-1 thru 1N3045B(UR)-1

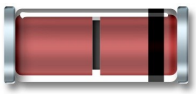
Silicon Voltage Regulator

Rev. V1

Features

- Available in JAN, JANTX and JANTXV per MIL-PRF-19500/115
- Tight tolerances available in plus or minus 2% or 1% with C or D suffix respectively.
- 1W power handling capability
- Hermetically sealed axial-leaded glass DO-41 package.
- Also available in DO-213AB MELF style package with UR-1 suffix.





Electrical Specifications: T_C = +25°C (unless otherwise specified)

JEDEC TYPE No. (Note1)	Normal Zener Voltage V_Z @ I_{ZT}	Zener Test Current I_{ZT}	Maximum Zener Impedance Z_{ZT}	Maximum Reverse Current I_R @ V_R		Maximum Zener Knee Impedance Z_{ZK}	Maximum Zener Current I_{ZM}
	Volts	mA	Ohms	µA	Volts	Ohms	mA
1N3821A-1	3.3	76	10	100	1	400	276
1N3822A-1	3.6	69	10	75	1	400	252
1N3823A-1	3.9	64	9	25	1	400	238
1N3824A-1	4.3	58	9	5	1	400	213
1N3825A-1	4.7	53	8	5	1	500	194
1N3826A-1	5.1	49	7	3	1	550	178
1N3827A-1	5.6	45	5	3	2	600	162
1N3828A-1	6.2	41	2	3	3	700	146
1N3016B-1	6.8	37	3.5	5.0	5.2	700	140
1N3017B-1	7.5	34	4.0	5.0	5.7	700	125
1N3018B-1	8.2	31	4.5	5.0	6.2	700	115
1N3019B-1	9.1	28	6.0	5.0	6.9	700	105
1N3020B-1	10	25	7	5.0	7.6	700	95
1N3021B-1	11	23	8	1.0	8.4	700	85
1N3022B-1	12	21	9	1.0	9.1	700	80
1N3023B-1	13	19	10	0.5	9.9	700	74
1N3024B-1	15	17	14	0.5	11.4	700	63
1N3025B-1	16	15.5	16	0.5	12.2	700	60
1N3026B-1	18	14.0	20	0.5	13.7	750	52
1N3027B-1	20	12.5	22	0.5	15.2	750	47
1N3028B-1	22	11.5	23	0.5	16.7	750	43
1N3029B-1	24	10.5	25	0.5	18.2	750	40

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1N3821A(UR)-1 thru 1N3828A(UR)-1 & 1N3016B(UR)-1 thru 1N3045B(UR)-1

Silicon Voltage Regulator

Rev. V1

Electrical Specifications: T_C = +25°C (unless otherwise specified)

JEDEC TYPE No. (Note1)	Normal Zener Voltage V_Z @ I_{ZT}	Zener Test Current I_{ZT}	Maximum Zener Impedance Z_{ZT}	Maximum Reverse Current I_R @ V_R		Maximum Zener Knee Impedance Z_{ZK}	Maximum Zener Current I_{ZM}
	Volts	µA	Ohms	µA	Volts	Ohms	mA
1N3030B-1	27	9.5	35	0.5	20.6	750	34
1N3031B-1	30	8.5	40	0.5	22.8	1000	31
1N3032B-1	33	7.5	45	0.5	25.1	1000	28
1N3033B-1	36	7.0	50	0.5	27.4	1000	26
1N3034B-1	39	6.5	60	0.5	29.7	1000	23
1N3035B-1	43	6.0	70	0.5	32.7	1500	21
1N3036B-1	47	5.5	80	0.5	35.8	1500	19
1N3037B-1	51	5.0	95	0.5	38.8	1500	18
1N3038B-1	56	4.5	110	0.5	42.6	2000	17
1N3039B-1	62	4.0	125	0.5	47.1	2000	15
1N3040B-1	68	3.7	150	0.5	51.7	2000	14
1N3041B-1	75	3.3	175	0.5	56.0	2000	12
1N3042B-1	82	3.0	200	0.5	62.2	3000	11
1N3043B-1	91	2.8	250	0.5	69.2	3000	10
1N3044B-1	100	2.5	350	0.5	76.0	3000	9
1N3045B-1	110	2.3	450	0.5	83.6	4000	8.3

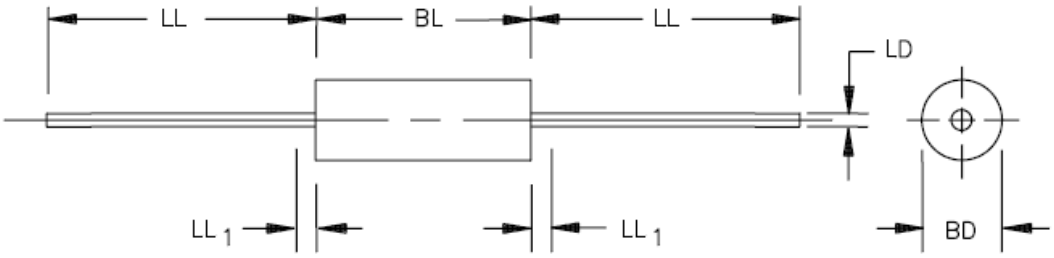
1. The JEDEC type numbers shown with no suffix have a standard tolerance of +5% on the nominal Zener voltage; suffix C is used to identify +2%: and suffix D is used identify +1% tolerance. Vz is measured with the diode in thermal equilibrium in 25°C still air.

Absolute Maximum Ratings (T_C = +25°C unless otherwise specified)

Package Type	Package Style	P_{TL} (1)	P_{TPCB} (1)	T_L	T_{EC}	$R_{\theta JL}$ (4)	$R_{\theta JEC}$ (5)
DO-41 (DO-204AL)	Axial	1.0 W (2)	1 W	+95°C		80°C/W	
DO-213AB	Surface Mount (UR)	1.0 W (3)			+125°C		50°C/W

(1) See figures 6, 7, and 8 of MIL-PRF-19500/115 for derating curves
(2) L = .375 inch (9.53 mm). Both ends of case or diode body to heat sink at L = .375 (9.53 mm). (Derate I_Z to 0 at T_L = + 175°C).
(3) Derate to 0 at T_{EC} = +175°C.
(4) L = .375 inch (9.53 mm)
(5) Junction to end caps.

Outline Drawing (DO-41)

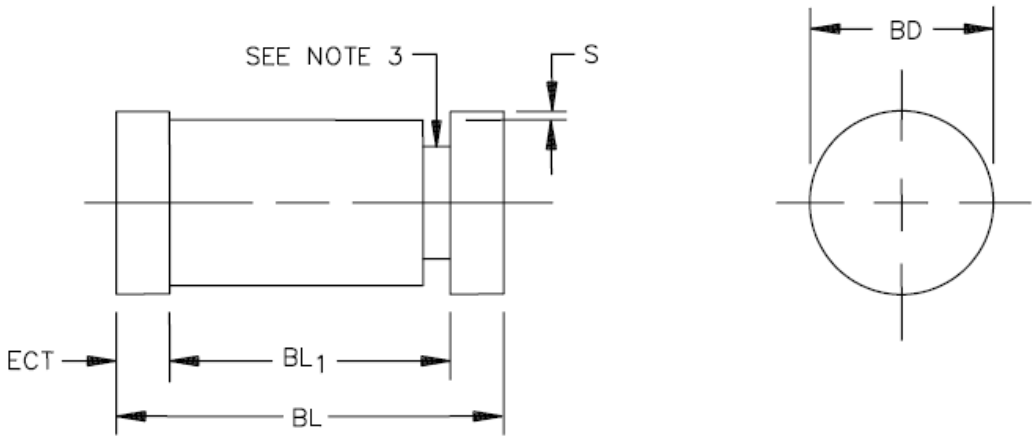


Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	.080	.107	2.03	2.72	2
BL	.160	.205	4.06	5.21	2
LD	.028	.034	0.71	0.86	
LL	1.000		25.40		
LL_1		.50		12.7	3

NOTES:
1. Dimensions are in inches. Millimeter equivalents are given for general information only.
2. Package contour optional within BD and length BL. Heat slugs, if any, shall be included within this cylinder but shall not be subject to minimum limit of BD.
3. Within this zone lead, diameter may vary to allow for lead finishes and irregularities other than heat slugs.
4. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

FIGURE 2. Physical dimensions of axial leaded package DO-204AL (formerly DO-41).

Outline Drawing (DO-213AB)



Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.094	.105	2.39	2.67
BL_1	.159 (Ref.)		4.04 (Ref.)	
BL	.189	.205	4.80	5.21
ECT	.014	.022	0.360	0.560
S	.001		0.030	

NOTES:
1. Dimensions are in inches. Millimeters are given for general information only.
2. Gap not controlled, shape of body and gap not controlled.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φx symbology.

FIGURE 3. Physical dimensions of surface mount package DO-213AB.