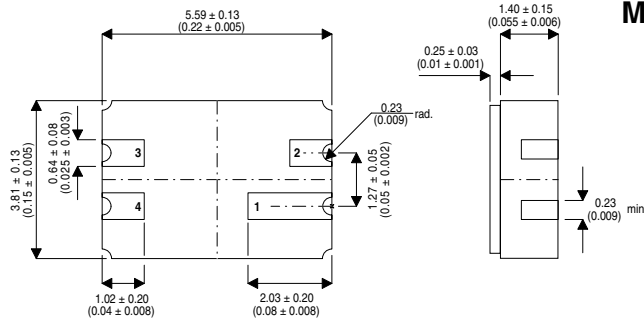


## MECHANICAL DATA

Dimensions in mm (inches)



## 500mW ZENER VOLTAGE REGULATOR DIODE IN A HERMETIC CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

### FEATURES

- Extensive Voltage Selection (2.4V - 200V)
- Standard Voltage Tolerance of ±5% (B suffix)
- Regulation Over a Large Operating Current & Temperature Range
- ESD Insensitive
- Hermetic Ceramic Surface Mount Package
- Military Screening Options Available

**LCC3 (MO-041BA)**  
**PAD 1 – CATHODE PAD 3 – N/C**  
**PAD 2 – N/C PAD 4 – ANODE**  
 Lead metallisation typically 100u inches Au over 50-250u inches Ni

P/N Suffix	V <sub>Z</sub> Tolerance
A	- ±10%
B	- ±5.0%
C	- ±2.0%
D	- ±1.0%

## ABSOLUTE MAXIMUM RATINGS T<sub>CASE</sub> = 25°C unless otherwise stated

P <sub>D</sub>	Power Dissipation at T <sub>A</sub> = 25°C	500mW
V <sub>F</sub>	Forward Voltage at 200mA	1.5V
T <sub>j</sub>	Operating Junction Temperature Range	-55°C to +175°C
T <sub>stg</sub>	Storage Temperature Range	-65°C to +175°C
R <sub>JA</sub>	Thermal Resistance Junction to Ambient	300°C/W

P/N	Nominal Zener Voltage	Test Current	Maximum Zener Impedance <sup>(1)</sup>		Maximum Reverse Leakage Current			Maximum Zener Voltage Coefficient <sup>(2)</sup>
	V <sub>Z</sub> @ I <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZK</sub>	Z <sub>ZT</sub> @ I <sub>ZK</sub> = 250µA	I <sub>R</sub>	@ V <sub>R</sub>		V <sub>Z</sub>
	V	mA	A & B		µA	A	B, C & D	%/°C A & B
1N5221	2.4	20	30	1200	100	0.95	1.0	-0.085
1N5222	2.5	20	30	1250	100	0.95	1.0	-0.085
1N5223	2.7	20	30	1300	75	0.95	1.0	-0.080
1N5224	2.8	20	30	1400	75	0.95	1.0	-0.080
1N5225	3.0	20	29	1600	50	0.95	1.0	-0.075
1N5226	3.3	20	28	1600	25	0.95	1.0	-0.070
1N5227	3.6	20	24	1700	15	0.95	1.0	-0.065
1N5228	3.9	20	23	1900	10	0.95	1.0	-0.060
1N5229	4.3	20	22	2000	5.0	0.95	1.0	±0.055
1N5230	4.7	20	19	1900	5.0	1.9	2.0	±0.030
1N5231	5.1	20	17	1600	5.0	1.9	2.0	±0.030
1N5232	5.6	20	11	1600	5.0	2.9	3.0	+0.038
1N5233	6.0	20	7.0	1600	5.0	3.3	3.5	+0.038
1N5234	6.2	20	7.0	1000	5.0	3.8	4.0	+0.045
1N5235	6.8	20	5.0	750	3.0	4.8	5.0	+0.050

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P/N	Nominal Zener Voltage	Test Current	Maximum Zener Impedance <sup>(1)</sup>		Maximum Reverse Leakage Current			Maximum Zener Voltage Coefficient <sup>(2)</sup>
	$V_Z @ I_{ZT}$	$I_{ZT}$	$Z_{ZT} @ I_{ZK}$	$Z_{ZT} @ I_{ZK} = 250\mu A$	$I_R$	@ $V_R$		$V_Z$
	V	mA	A & B		$\mu A$	A	B, C & D	%/°C A & B
1N5236	7.5	20	6.0	500	3.0	5.7	6.0	+0.058
1N5237	8.2	20	8.0	500	3.0	6.2	6.5	+0.062
1N5238	8.7	20	8.0	600	3.0	6.2	6.5	+0.065
1N5239	9.1	20	10	600	3.0	6.7	7.0	+0.068
1N5240	10	20	17	600	3.0	7.6	8.0	+0.075
1N5241	11	20	22	600	2.0	8	8.4	+0.076
1N5242	12	20	30	600	1.0	8.7	9.1	+0.077
1N5243	13	9.5	13	600	0.5	9.4	9.9	+0.079
1N5244	14	9.0	15	600	0.1	9.5	10	+0.082
1N5245	15	8.5	16	600	0.1	10.5	11	+0.082
1N5246	16	7.8	17	600	0.1	11.4	12	+0.083
1N5247	17	7.4	19	600	0.1	12.4	13	+0.084
1N5248	18	7.0	21	600	0.1	13.3	14	+0.085
1N5249	19	6.6	23	600	0.1	13.3	14	+0.086
1N5250	20	6.2	25	600	0.1	14.3	15	+0.086
1N5251	22	5.6	29	600	0.1	16.2	17	+0.087
1N5252	24	5.2	33	600	0.1	17.1	18	+0.088
1N5253	25	5.0	35	600	0.1	18.1	19	+0.089
1N5254	27	4.6	41	600	0.1	20	21	+0.090
1N5255	28	4.5	44	600	0.1	20	21	+0.091
1N5256	30	4.2	49	600	0.1	22	23	+0.091
1N5257	33	3.8	58	700	0.1	24	25	+0.092
1N5258	36	3.4	70	700	0.1	26	27	+0.093
1N5259	39	3.2	80	800	0.1	29	30	+0.094
1N5260	43	3.0	93	900	0.1	31	33	+0.095
1N5261	47	2.7	105	1000	0.1	34	36	+0.095
1N5262	51	2.5	125	1100	0.1	37	39	+0.096
1N5263	56	2.2	150	1300	0.1	41	43	+0.096
1N5264	60	2.1	170	1400	0.1	44	46	+0.097
1N5265	62	2.0	185	1400	0.1	45	47	+0.097
1N5266	68	1.8	230	1600	0.1	49	52	+0.097
1N5267	75	1.7	270	1700	0.1	53	56	+0.098
1N5268	82	1.5	330	2000	0.1	59	62	+0.098
1N5269	87	1.4	370	2200	0.1	65	68	+0.099
1N5270	91	1.4	400	2300	0.1	66	69	+0.099
1N5271	100	1.3	500	2600	0.1	72	76	+0.110
1N5272	110	1.1	750	3000	0.1	80	84	+0.110
1N5273	120	1.0	900	4000	0.1	86	91	+0.110
1N5274	130	0.95	1100	4500	0.1	94	99	+0.110
1N5275	140	0.90	1300	4500	0.1	101	106	+0.110
1N5276	150	0.85	1500	5000	0.1	108	114	+0.110
1N5277	160	0.80	1700	5500	0.1	116	122	+0.110
1N5278	170	0.74	1900	5500	0.1	123	129	+0.110
1N5279	180	0.68	2200	6000	0.1	130	137	+0.110
1N5280	190	0.66	2400	6500	0.1	137	144	+0.110
1N5281	200	0.65	2500	7000	0.1	144	152	+0.110

Notes: 1) Zener Impedance is measured to ensure a sharp knee characteristic on the breakdown curve. Derived from 50Hz ac voltage from ac current of 10% rms of  $I_{ZT}$  (or  $I_{ZK}$ ) superimposed on DC  $I_{ZT}$  (or  $I_{ZK}$ )

2) Temperature Coefficient test conditions:  
a.  $I_{ZT} = 7.5mA$ ,  $T_1 = 25^\circ C$ ,  $T_2 = 125^\circ C$  (1N5221A, B through to 1N5242A, B)  
b.  $I_{ZT} = 7.5mA$ ,  $T_1 = 25^\circ C$ ,  $T_2 = 125^\circ C$  (1N5243A, B through to 1N5281A, B)

DUT temperature stabilised with constant current for  $V_Z$  measurement @  $T_1, T_2$

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