

1/2 Watt Zener Diodes

1N6316  
thru  
1N6355

DO-35 Hard Glass Package

## Use Advantages

Voidless / Tungsten-Plugs

Low noise zener diodes with rugged voidless hard glass tungsten design.

Able to replace less robust families like 1N4099 and 1N5530B.

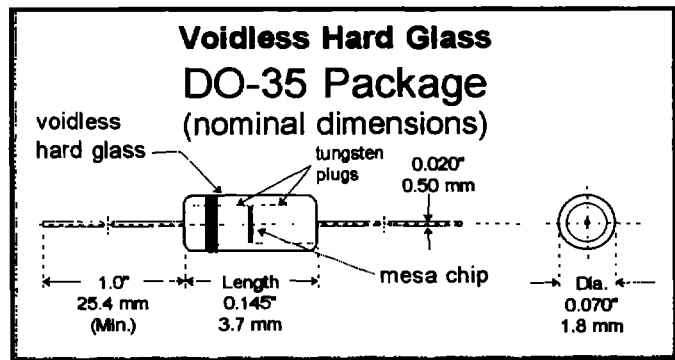
For use in hostile environments and applications where strength, thermal response and reliability are important i.e. (Medical, Military and Aero/Space).

Full range of MIL-S-19500/533 approvals, see list for bold  $\checkmark$  types.

"S" level screening capability to Source Control Drawings.

## Features

- Six Sigma quality
- Humidity proof glass
- Metallurgically bonded
- Fast Thermal Response
- Thermally matched system
- High surge capability
- Sigma Bond™ plated contacts
- 100% guaranteed solderability
- Exceeds 2 million years MTBF



Absolute Maximum Ratings	Symbol	Value	Unit
Power Dissipation at 3/8" from the body, $T_L = 75^\circ\text{C}$	$P_{tot}$	0.5	Watt
Thermal Impedance per MIL-STD-750, method 3101	$Z_{\theta jx}$	15	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_{Op \& St}$	-65 to +175	$^\circ\text{C}$

Characteristics at $T = 25^\circ\text{C}$	Symbol	Limit	Unit
Thermal Resistance at 3/8" from the body, $T_L = 75^\circ\text{C}$	$R_{\theta jl}$	250	$^\circ\text{C/W}$
Forward Voltage at $I_F = 200\text{ mA}$	$V_F$	1.1 (Max)	Volts

For MIL types add a JAN, JTX or JTXV prefix along with to the  $\checkmark$  type numbers listed.

DETAILED SPECIFICATIONS ON REVERSE



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\*BKCSS083\*

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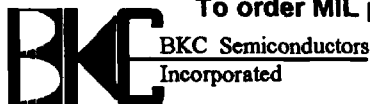
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## Voidless Zener Detail Specifications

Type	Nominal Zener Voltage @ $I_{Z2}$ +/- 5% ( $V_{Z2}$ )	Minimal Zener Voltage @ $I_{Z1}$ 250 $\mu$ A ( $V_{Z1}$ )	Test Current $I_{Z2}$	Maximum Zener Impedance ( $Z_Z$ ) @ $I_{Z2}$ ( $Z_{ZK}$ ) @ 250 $\mu$ A		Maximum Regulator Current ( $I_{ZM}$ )	Reg. Factor ( $\Delta V_Z$ )	Maximum Surge Current ( $I_{ZSM}$ )	Maximum Reverse Leakage Current ( $I_R$ ) @ $V_R$			Noise Density @ 250 $\mu$ A 1.3KHz ( $N_D$ )	Typical Temp. Coeff.	Typical Cap. @ 0V ( $C_O$ )
	Volts	Volts	mA	Ohms	Ohms	mA	Volts	Amps	25°C $\mu$ A	150°C @ $V_R$ $\mu$ A	V	$\mu$ V	%/°C	pF
1N6316	4.7	2.8	20	16	1500	90	0.5	1.27	5.0	12	1.5	1.0	-0.028 +0.032	1300
1N6317	5.1	3.3	20	14	1300	83	0.4	1.17	5.0	12	2.0	1.0	0.045	1200
1N6318	5.6	4.3	20	8.0	1200	76	0.4	1.10	5.0	10	2.5	2.0	0.050	1150
1N6319	6.2	5.2	20	3.0	800	68	0.3	0.97	5.0	10	3.5	5.0	0.060	1050
1N6320	6.8	6.0	20	3.0	400	63	0.35	1.23	2.0	10	4.0	5.0	0.062	1000
1N6321 ✓	7.5	6.6	20	4.0	400	57	0.4	1.16	2.0	10	5.0	5.0	0.068	900
1N6322 ✓	8.2	7.5	20	5.0	400	52	0.4	1.07	1.0	10	6.0	20	0.075	800
1N6323 ✓	9.1	8.4	20	6.0	500	47	0.5	0.97	1.0	10	7.0	40	0.076	700
1N6324 ✓	10	9.1	20	6.0	500	43	0.5	0.89	1.0	10	8.0	80	0.079	600
1N6325 ✓	11	10	20	7.0	550	39	0.5	0.83	1.0	10	8.5	100	0.082	500
1N6326 ✓	12	11	20	7.0	550	35	0.55	0.77	1.0	10	9.0	100	0.083	450
1N6327 ✓	13	11.9	9.5	8.0	550	33	0.55	0.71	0.05	10	9.9	100	0.079	400
1N6328 ✓	15	13.8	8.5	10	600	28	0.70	0.62	0.05	10	11	100	0.082	350
1N6329 ✓	16	14.7	7.8	12	600	27	0.75	0.58	0.05	10	12	100	0.083	325
1N6330 ✓	18	16.6	7.0	14	600	24	0.85	0.52	0.05	10	14	100	0.085	300
1N6331 ✓	20	18.5	6.2	18	500	21	0.95	0.47	0.05	10	15	100	0.086	275
1N6332 ✓	22	20.4	5.6	20	500	19	1.05	0.43	0.05	10	17	100	0.087	260
1N6333 ✓	24	22.3	5.2	24	500	18	1.15	0.39	0.05	10	18	100	0.088	240
1N6334 ✓	27	25.2	4.6	27	500	16	1.30	0.35	0.05	10	21	100	0.090	220
1N6335 ✓	30	28	4.2	32	500	14	1.45	0.31	0.05	10	23	100	0.091	200
1N6336 ✓	33	30.9	3.8	40	600	13	1.60	0.28	0.05	10	25	100	0.092	185
1N6337 ✓	36	33.7	3.4	50	600	12	1.75	0.25	0.05	10	27	100	0.093	175
1N6338 ✓	39	36.6	3.2	55	700	11	1.90	0.24	0.05	10	30	100	0.094	170
1N6339 ✓	43	40.4	3.0	65	800	9.9	2.10	0.22	0.05	10	33	80	0.095	165
1N6340 ✓	47	44.2	2.7	75	900	9.0	2.25	0.20	0.05	10	36	80	0.095	155
1N6341 ✓	51	48	2.5	85	1000	8.3	2.50	0.18	0.05	10	39	80	0.096	145
1N6342 ✓	56	52.7	2.2	100	1200	7.6	2.70	0.17	0.05	10	43	80	0.097	135
1N6343 ✓	62	58.4	2.0	125	1300	6.8	2.90	0.15	0.05	10	47	80	0.097	130
1N6344 ✓	68	64.1	1.8	155	1500	6.3	3.20	0.13	0.05	10	52	80	0.098	120
1N6345 ✓	75	70.8	1.7	180	1600	5.7	3.40	0.125	0.05	10	56	80	0.098	110
1N6346 ✓	82	77.4	1.5	220	1800	5.2	3.80	0.115	0.05	10	62	80	0.099	105
1N6347 ✓	91	86	1.4	270	2100	4.7	4.20	0.100	0.05	10	69	80	0.099	100
1N6348 ✓	100	94.5	1.3	340	2400	4.3	4.40	0.095	0.05	10	76	80	0.110	95
1N6349 ✓	110	104	1.1	500	2800	3.9	4.80	0.085	0.05	10	84	80	0.110	90
1N6350 ✓	120	113	1.0	600	3200	3.5	5.20	0.080	0.05	10	91	80	0.110	70
1N6351 ✓	130	122	0.95	850	4100	3.3	5.60	0.070	0.05	10	99	80	0.110	70
1N6352 ✓	150	141	0.85	1000	4500	2.8	7.00	0.065	0.05	10	114	80	0.110	65
1N6353 ✓	160	151	0.80	1200	5000	2.7	7.50	0.060	0.05	10	122	80	0.110	65
1N6354 ✓	180	170	0.68	1500	5600	2.4	8.00	0.050	0.05	10	137	80	0.110	60
1N6355 ✓	200	189	0.65	1800	6500	2.1	12.0	0.045	0.05	10	152	80	0.110	55

Voltage tolerance is  $\pm 5\%$ . Other tolerances available upon request.

To order MIL parts, use the above ✓ numbers with the desired JAN, JTX or JTXV prefix.



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