

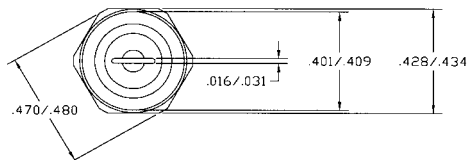
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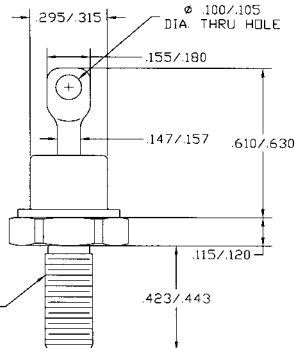
12251 TOWNE LAKE DRIVE, FORT MYERS, FLORIDA, 33913 • TEL: (941) 768-6800 • FAX: (941) 768-6868

**10 WATT MAX
DO - 4 ZENERS**

Top View

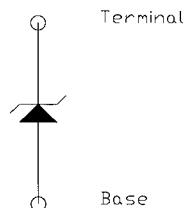


Side View



10 - 32 UNF-2A(MOD)
PITCH DIA. .1656MIN/.1690MAX

Electrical Schematic



All Dimensions In Inches

GLASS PASSIVATED DO-4 ZENER

ZENER VOLTAGES - 6.8 TO 200 VOLTS

10 WATT MAXIMUM POWER DISSIPATION

DO - 4 DEVICE SPECIFICATIONS

- ◆ Hermetically Sealed Glass to Metal Package
- ◆ Designed for Military and Industrial Use
- ◆ Each Device Individually Inspected
- ◆ Standard Polarity Anode to Base
- ◆ Available Tolerances: $\pm 5\%$, $\pm 10\%$, $\pm 20\%$
- ◆ 7/16" Hexagon Stud with 10-32 Threads
- ◆ Operating and Storage Temperature: -65°C to $+150^{\circ}\text{C}$
- ◆ Forward Voltage @ 2.0 A: 1.5 V
- ◆ Copper Terminals Provide Secure Connections and Good Conductivity

DO4 CUSTOM ORDERING SPECIFIER

DIE SPECIFICATIONS

DO4 - SZ 16 - 8.2 - 5 - 305 -

DEVICE
CODE

ZENER DIE

NOMINAL
ZENER VOLTAGE

ZENER TEST
CURRENT

AVAILABLE SIZES	
CODE	DIE SIZE
16*	.115sq
8	.100sq
5	.095sq
*10W DEVICE MUST USE .115sq DIE	

TOLERANCE	
CODE	TOLERANCE
5	$\pm 5\%$
10	$\pm 10\%$
20	$\pm 20\%$

- ◆ BLANK - INDICATES STANDARD POLARITY ANODE TO BASE
- ◆ R - INDICATES REVERSE POLARITY CATHODE TO BASE



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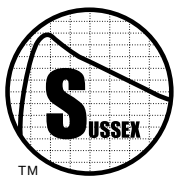
DO-4 - CONTINUED

TABLE 1A - STANDARD DEVICE ELECTRICAL SPECIFICATIONS (NOTE 1)

JEDEC PART NUMBER	SUSSEX PART NUMBER	NOMINAL ZENER VOLTAGE $V_Z @ I_{ZT}$ (NOTE 2) VOLTS	ZENER TEST CURRENT (I_{ZT}) mA	MAX. ZENER IMPEDANCE (NOTE 3)		MAX. DC ZENER CURRENT $(I_{ZM}) @ 75^{\circ}\text{C}$ STUD TEMP. (NOTE 4) mA	TYPICAL ZENER VOLTAGE TEMP. COEFF. %/ $^{\circ}\text{C}$	MAXIMUM LEAKAGE CURRENT $I_R @ V_R$	
				$Z_{ZT} @ I_{ZT}$ OHMS	$Z_{ZK} @ 1\text{mA}$ (I_{ZK}) OHMS			μA	V
1N2970B	DO4-SZ16-6.8-5-370	6.8	370	1.2	500	1320	0.04	150	5.2
1N2971B	DO4-SZ16-7.5-5-335	7.5	335	1.3	250	1180	0.045	100	5.7
1N2972B	DO4-SZ16-8.2-5-305	8.2	305	1.5	250	1040	0.048	50	6.2
1N2973B	DO4-SZ16-9.1-5-275	9.1	275	2	250	960	0.051	25	6.9
1N2974B	DO4-SZ16-10-5-250	10	250	3	250	860	0.055	25	7.6
1N2975B	DO4-SZ16-11-5-230	11	230	3	250	780	0.06	10	8.4
1N2976B	DO4-SZ16-12-5-210	12	210	3	250	720	0.065	10	9.1
1N2977B	DO4-SZ16-13-5-190	13	190	3	250	660	0.065	10	9.9
1N2978B	DO4-SZ16-14-5-180	14	180	3	250	600	0.07	10	10.5
1N2979B	DO4-SZ16-15-5-170	15	170	3	250	560	0.07	10	11.4
1N2980B	DO4-SZ16-16-5-155	16	155	4	250	530	0.07	10	12.2
1N2981B	DO4-SZ16-17-5-145	17	145	4	250	500	0.075	10	13
1N2982B	DO4-SZ16-18-5-140	18	140	4	250	460	0.075	10	13.7
1N2983B	DO4-SZ16-19-5-130	19	130	4	250	440	0.075	10	14
1N2984B	DO4-SZ16-20-5-125	20	125	4	250	420	0.075	10	15.2
1N2985B	DO4-SZ16-22-5-115	22	115	5	250	380	0.08	10	16.7
1N2986B	DO4-SZ16-24-5-105	24	105	5	250	350	0.08	10	18.2
1N2987B	DO4-SZ16-25-5-100	25	100	6	250	310	0.08	10	18.2
1N2988B	DO4-SZ16-27-5-95	27	95	7	250	300	0.085	10	20.6
1N2989B	DO4-SZ16-30-5-85	30	85	8	300	280	0.085	10	22.8
1N2990B	DO4-SZ16-33-5-75	33	5	9	300	260	0.085	10	25.1
1N2991B	DO4-SZ16-36-5-70	36	70	10	300	230	0.085	10	27.4
1N2992B	DO4-SZ16-39-5-65	39	65	11	300	210	0.09	10	29.7
1N2993B	DO4-SZ16-43-5-60	43	60	12	400	195	0.09	10	32.7
1N2994B	DO4-SZ16-45-5-55	45	55	13	400	185	0.09	10	33
1N2995B	DO4-SZ16-47-5-55	47	55	14	400	175	0.09	10	35.8
1N2996B	DO4-SZ16-50-5-50	50	50	15	500	165	0.09	10	36
1N2997B	DO4-SZ16-51-5-50	51	50	15	500	160	0.09	10	38.8
1N2998B	DO4-SZ16-52-5-50	52	50	15	500	160	0.09	10	39
1N2999B	DO4-SZ16-56-5-45	56	45	16	500	150	0.09	10	42.6
1N3000B	DO4-SZ16-62-5-40	62	40	17	600	130	0.09	10	47.1
1N3001B	DO4-SZ16-68-5-37	68	37	18	600	120	0.09	10	51.7
1N3002B	DO4-SZ16-75-5-33	75	33	22	600	110	0.09	10	56
1N3003B	DO4-SZ16-82-5-30	82	30	25	700	100	0.09	10	62.2
1N3004B	DO4-SZ16-91-5-28	91	28	35	800	85	0.09	10	69.2
1N3005B	DO4-SZ16-100-5-25	100	25	40	900	80	0.09	10	76
1N3006B	DO4-SZ16-105-5-25	105	25	45	1000	75	0.095	10	76
1N3007B	DO4-SZ16-110-5-23	110	23	55	1100	72	0.095	10	83.6
1N3008B	DO4-SZ16-120-5-20	120	20	75	1200	68	0.095	10	91.2
1N3009B	DO4-SZ16-130-5-19	130	19	100	1300	62	0.095	10	98.8
1N3010B	DO4-SZ16-140-5-18	140	18	125	1400	58	0.095	10	100
1N3011B	DO4-SZ16-150-5-17	150	17	175	1500	54	0.095	10	114
1N3012B	DO4-SZ16-160-5-16	160	16	200	1600	50	0.095	10	121.6
1N3013B	DO4-SZ16-175-5-14	175	14	250	1750	46	0.095	10	135
1N3014B	DO4-SZ16-180-5-14	180	14	260	1850	45	0.095	10	136.8
1N3015B	DO4-SZ16-200-5-12	200	12	300	2000	40	0.1	10	152

NOTES

- NOTE 1** ♦ ELECTRICAL CHARACTERISTICS MEASURED AT 25°C UNLESS OTHERWISE STATED.
♦ TABLE DEMONSTRATES DEVICE CHARACTERISTICS FOR A 10W DEVICE (SZ16 CHIP).
- NOTE 2** ♦ V_Z MEASURED AT JUNCTION AND CASE TEMPERATURE BOTH AT 25°C .
♦ I_{ZT} IS SELECTED SO THAT A CONSTANT 12.5W POWER DISSIPATION IS OBTAINED (JUNCTION TEMPERATURE RISE 12.75°C).
- NOTE 3** ♦ ZENER IMPEDANCE IS DERIVED FROM 60HZ AC VOLTAGE WHICH RESULTS WHEN AC CURRENT RMS VALUE EQUAL TO 10% OF D.C ZENER CURRENT IS SUPERIMPOSED ON I_Z .
♦ ZENER IMPEDANCE IS MEASURED AT 2 POINTS ON THE REVERSE BREAKDOWN CURVE.
- NOTE 4** ♦ I_{ZM} VALUES DERIVED FOR A $\pm 5\%$ V_Z TOL.
♦ I_{ZM} IS THE VALUE OF ZENER CURRENT AT WHICH POINT 10W POWER DISSIPATION RESULTS.



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DO-4 - CONTINUED

FIGURE 3A - DO-4 DERATING CURVE

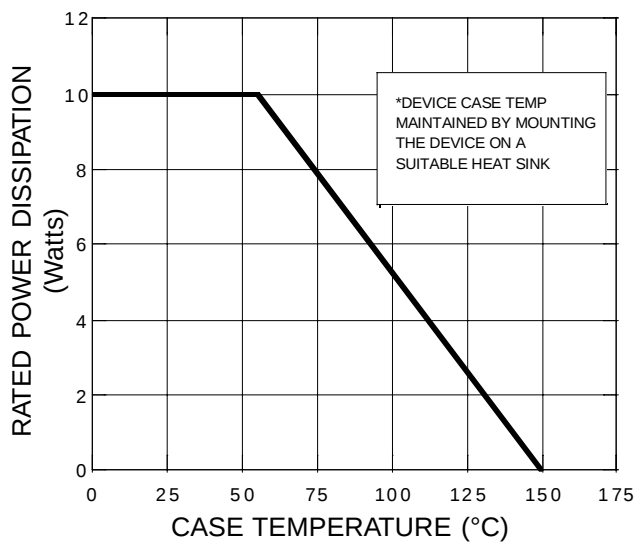


FIGURE 4A - DO-4 ZENER IMPEDANCE VS. ZENER CURRENT

