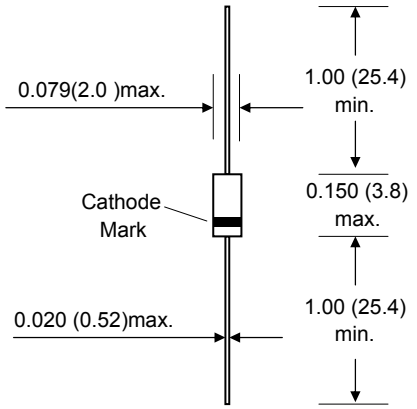
SYNSEMI SEMICONDUCTOR

1N5985A - 1N6031A

ZENER DIODES

V_Z : 2.4 - 200 V
P_D : 500 mW

DO - 35 Glass
(DO-204AH)



Dimensions in inches and (millimeters)

FEATURES :

* Extensive selection from 2.0 V to 200 V
* Standard zener voltage tolerance is ± 10%.
* Other tolerances are available upon request.
* Pb / RoHS Free

MECHANICAL DATA :

*** Case:** DO-35 Glass Case
*** Weight:** approx. 0.13g

Maximum Ratings and Thermal Characteristics

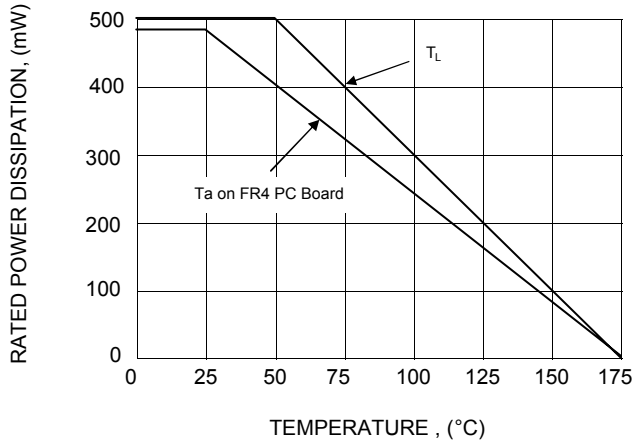
Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Power Dissipation	P_D	500	mW
Maximum Forward Voltage at I_F = 200 mA.	V_F	1.1	V
Thermal Resistance Junction to Ambient (Note 1)	$R_{\Theta JA}$	310	°C/W
Thermal Resistance Junction to Lead (Note 1)	$R_{\Theta JL}$	250	°C/W
Operating and Storage Temperature Range	T_J,T_{STG}	- 65 to + 175	°C

Note :

(1) At 3/8 inch (10 mm) from body, when mounted on FR4 PC board (1 oz Cu) with 4 m^2 copper pads and track with 1 mm, length 25 mm.

FIG. - 1 POWER DERATING CURVE



Electrical Characteristics (Rating at 25 °C ambient temperature unless otherwise specified)

Type	Nominal Zener Voltage(2)	Test Current	Maximum Zener Impedance (1)		Test Current	Maximum Reverse Leakage Current		Typical Temperature Coefficient of V_Z	Maximum DC Zener Current
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		αvz	I_{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(%/ °C)	(mA)
1N5985A	2.4	5.0	110	2000	0.25	100	0.5	-0.090	208
1N5986A	2.7	5.0	110	2200	0.25	100	0.5	-0.075	185
1N5987A	3.0	5.0	100	2300	0.25	100	0.5	-0.070	167
1N5988A	3.3	5.0	100	2400	0.25	75	0.5	-0.060	152
1N5989A	3.6	5.0	95	2500	0.25	50	0.5	-0.055	139
1N5990A	3.9	5.0	95	2500	0.25	25	1.0	-0.045	128
1N5991A	4.3	5.0	90	2500	0.25	15	1.0	-0.010	116
1N5992A	4.7	5.0	90	2500	0.25	10	1.0	+0.010	106
1N5993A	5.1	5.0	88	2500	0.25	5.0	1.0	+0.025	98
1N5994A	5.6	5.0	70	2200	0.25	3.0	1.5	+0.035	89
1N5995A	6.2	5.0	50	2050	0.25	2.0	2.0	+0.040	81
1N5996A	6.8	5.0	25	1800	0.25	2.0	3.0	+0.044	74
1N5997A	7.5	5.0	10	1300	0.25	1.0	4.0	+0.051	67
1N5998A	8.2	5.0	15	750	0.25	1.0	5.2	+0.055	61
1N5999A	9.1	5.0	18	600	0.25	0.5	6.0	+0.061	55
1N6000A	10	5.0	22	600	0.25	0.5	6.5	+0.065	50
1N6001A	11	5.0	25	600	0.25	0.1	7.0	+0.068	45
1N6002A	12	5.0	32	600	0.25	0.1	8.0	+0.073	42
1N6003A	13	5.0	36	600	0.25	0.1	8.4	+0.075	38
1N6004A	15	5.0	42	600	0.25	0.1	9.1	+0.079	33
1N6005A	16	5.0	48	600	0.25	0.1	9.9	+0.080	31
1N6006A	18	5.0	55	600	0.25	0.1	11	+0.083	28
1N6007A	20	5.0	62	600	0.25	0.1	12	+0.085	25
1N6008A	22	5.0	70	600	0.25	0.1	14	+0.087	23
1N6009A	24	5.0	78	600	0.25	0.1	15	+0.090	21
1N6010A	27	5.0	88	700	0.25	0.1	17	+0.091	19
1N6011A	30	5.0	95	700	0.25	0.1	18	+0.093	17
1N6012A	33	5.0	110	800	0.25	0.1	21	+0.094	15
1N6013A	36	5.0	130	900	0.25	0.1	23	+0.094	14
1N6014A	39	2.0	170	1000	0.25	0.1	25	+0.095	13
1N6015A	43	2.0	180	1100	0.25	0.1	27	+0.095	12
1N6016A	47	2.0	200	1300	0.25	0.1	30	+0.096	11
1N6017A	51	2.0	225	1400	0.25	0.1	33	+0.096	9.8
1N6018A	56	2.0	240	1600	0.25	0.1	36	+0.096	8.9
1N6019A	62	2.0	265	1700	0.25	0.1	39	+0.097	8.0
1N6020A	68	2.0	280	2000	0.25	0.1	43	+0.097	7.4
1N6021A	75	2.0	300	2300	0.25	0.1	47	+0.098	6.7
1N6022A	82	2.0	350	2600	0.25	0.1	52	+0.098	6.1
1N6023A	91	2.0	400	3000	0.25	0.1	56	+0.099	5.5
1N6024A	100	1.0	800	4000	0.25	0.1	62	+0.110	5.0
1N6025A	110	1.0	950	4500	0.25	0.1	69	+0.110	4.5
1N6026A	120	1.0	1250	5000	0.25	0.1	76	+0.110	4.2
1N6027A	130	1.0	1400	5500	0.25	0.1	84	+0.110	3.8
1N6028A	150	1.0	1700	6000	0.25	0.1	91	+0.110	3.3
1N6029A	160	1.0	2000	7000	0.25	0.1	99	+0.110	3.1
1N6030A	180	1.0	2350	8000	0.25	0.1	114	+0.110	2.8
1N6031A	200	1.0	2700	9000	0.25	0.1	122	+0.110	2.5

Notes :

(1) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}.

(2) Voltage Measurements to be performed 20 seconds after application of the dc test current.

(3) Standard Zener voltage tolerance is ± 10%. Add suffix “B” for ± 5% tolerance