1N4954 ~ 1N4989

SILICON ZENER DIODE

V_Z : 6.8 - 200 Volts
P_D : 5 Watts

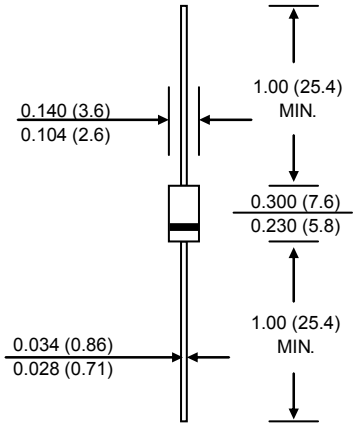
FEATURES :

* Glass passivated junction chip
* High peak reverse power dissipation
* High reliability
* Low leakage current
* Pb Free/RoHS Compliant

MECHANICAL DATA :

* Case : DO-15 Molded plastic
* Epoxy : UL94V-0 rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.4 gram

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

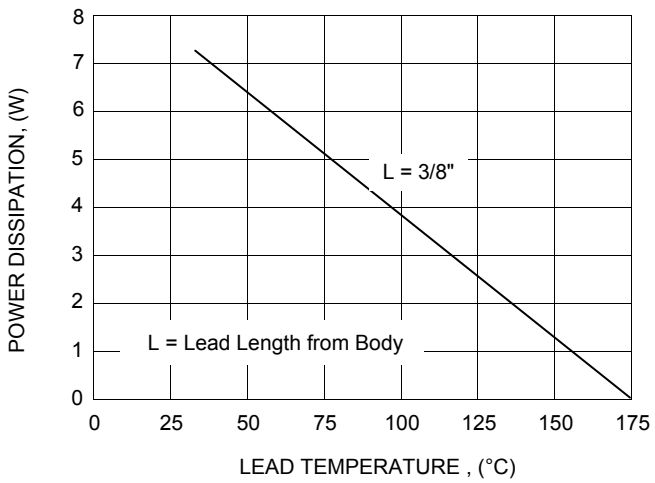
Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
DC Power Dissipation	P_D	5.0	W
Maximum Forward Voltage at I_F = 1 A	V_F	1.5	V
Thermal Resistance Junction to Lead (Note 1)	$R_{\Theta JL}$	22	°C/W
Operating Junction Temperature Range	T_J	- 65 to + 175	°C
Storage Temperature Range	T_{STG}	- 65 to + 175	°C

Note :

(1) At 3/8 inch (10 mm) from body

FIG. - 1 POWER DERATING CURVE



ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

TYPE	Nominal Zener Voltage		Maximum Zener Impedance		Maximum Reverse Leakage Current		Temp. coefficient of Zener Voltage	Maximum DC Zener Current	Voltage Regulation(1)	Surge Current
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ $I_{ZK=1mA}$	I_R @	V_R	α_{VZ} @ I_{ZT}	I_{ZM}	ΔV_Z	I_{ZSM}
	(V)	(mA)	(Ω)	(Ω)	(μA)	(V)	(% / °C)	(mA)	(V)	(A)
1N4954	6.8	175	1.0	1000	150	5.2	0.05	700	0.7	29.3
1N4955	7.5	175	1.5	800	100	5.7	0.06	630	0.7	26.4
1N4956	8.2	150	1.5	600	50	6.2	0.06	580	0.7	24.0
1N4957	9.1	150	2.0	400	25	6.9	0.06	520	0.7	22.0
1N4958	10	125	2.0	125	25.0	7.6	0.07	475	0.8	20.0
1N4959	11	125	2.5	130	10.0	8.4	0.07	430	0.8	19.0
1N4960	12	100	2.5	140	10.0	9.1	0.07	395	0.8	18.0
1N4961	13	100	3.0	145	10.0	9.9	0.08	365	0.9	16.0
1N4962	15	75	3.5	150	5.0	11.4	0.08	315	1.0	12.0
1N4963	16	75	3.5	155	5.0	12.2	0.08	294	1.1	10.0
1N4964	18	65	4.0	160	5.0	13.7	0.085	264	1.2	9.0
1N4965	20	65	4.5	165	2.0	15.2	0.085	237	1.5	8.0
1N4966	22	50	5.0	170	2.0	16.7	0.085	216	1.8	7.0
1N4967	24	50	5.0	175	2.0	18.2	0.090	198	2.0	6.5
1N4968	27	50	6.0	180	2.0	20.6	0.090	176	2.0	6.0
1N4969	30	40	8.0	190	2.0	22.8	0.090	158	2.5	5.5
1N4970	33	40	10	200	2.0	25.1	0.095	144	2.8	5.0
1N4971	36	30	11	220	2.0	27.4	0.095	132	3.0	4.5
1N4972	39	30	14	230	2.0	29.7	0.095	122	3.0	4.0
1N4973	43	30	20	240	2.0	32.7	0.095	110	3.3	3.5
1N4974	47	25	25	250	2.0	35.8	0.095	100	3.2	3.2
1N4975	51	25	27	270	2.0	38.8	0.095	92	4.0	3.0
1N4976	56	20	35	320	2.0	42.6	0.095	84	4.4	2.8
1N4977	62	20	42	400	2.0	47.1	0.100	76	5.0	2.5
1N4978	68	20	50	500	2.0	51.7	0.100	70	5.5	2.2
1N4979	75	20	55	620	2.0	56.0	0.100	63	6.0	2.0
1N4980	82	15	80	720	2.0	62.2	0.100	58	6.6	1.8
1N4981	91	15	90	760	2.0	69.2	0.100	52.5	7.5	1.6
1N4982	100	12	110	800	2.0	76.0	0.100	47.5	8.0	1.4
1N4983	110	12	125	1000	2.0	83.6	0.100	43	9.0	1.2
1N4984	120	10	170	1150	2.0	91.2	0.100	39.5	10	1.00
1N4985	130	10	190	1250	2.0	98.8	0.105	36.6	11	0.80
1N4986	150	8	330	1500	2.0	114	0.105	31.6	13	0.75
1N4987	160	8	350	1650	2.0	121.6	0.105	29.4	14	0.70
1N4988	180	5	450	1750	2.0	136.8	0.110	26.4	16	0.60
1N4989	200	5	500	1850	2.0	152	0.110	23.6	18	0.50

Note :

(1) Maximum voltage change Δ_{VZ} between 10% of I_{ZM} and 50% of I_{ZM}

(2) Standard voltage tolerance is ± 5%