

1N5333B - 1N5388B

V_Z: 3.3 to 200 V
P_D: 5 W

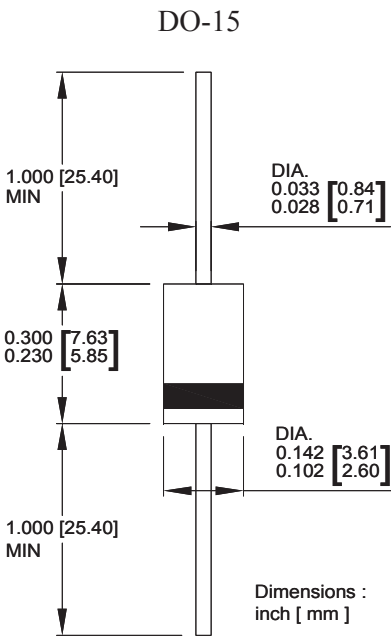
Axial Lead
Zener Diodes

Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

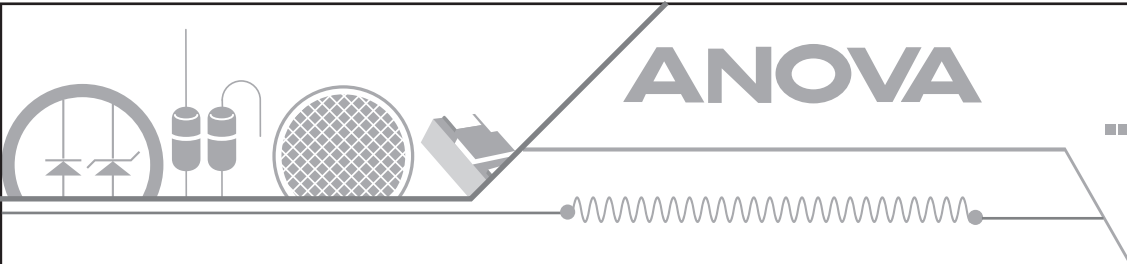


Maximum Ratings(T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	UNIT
DC power dissipation at T _L = 50 °C ⁽¹⁾	P _D	5	W
Maximum forward voltage at I _F = 200 mA	V _F	1.2	V
Junction temperature range	T _J	- 55 to + 150	°C
Storage temperature range	T _{STG}	- 55 to + 150	°C

Note:

(1) T_L = Lead temperature at 3/8 " (9.5mm) from body



Ratings and Characteristics Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

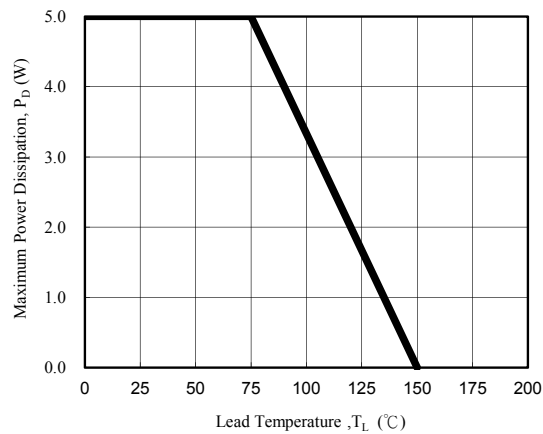


Fig. 1 - Power Temperature Derating Curve

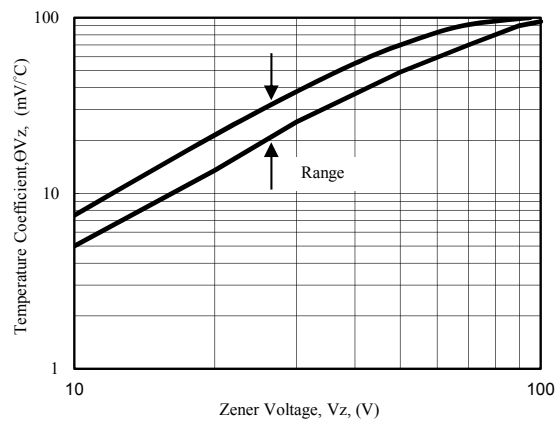


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

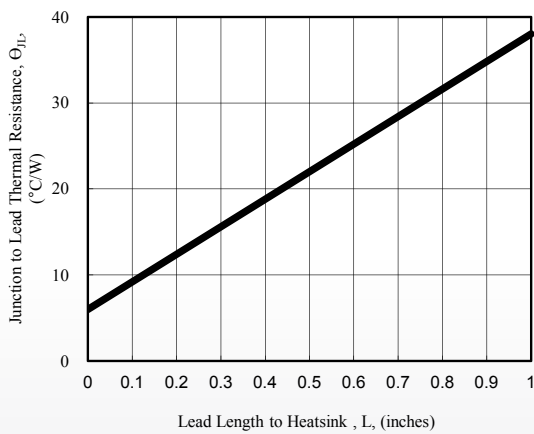


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

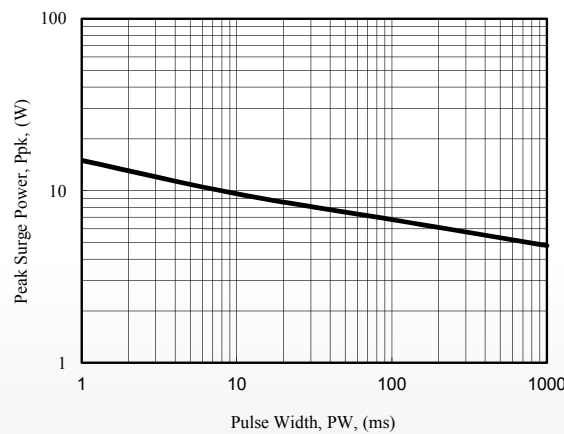


Fig. 4 - Maximum Surge Power

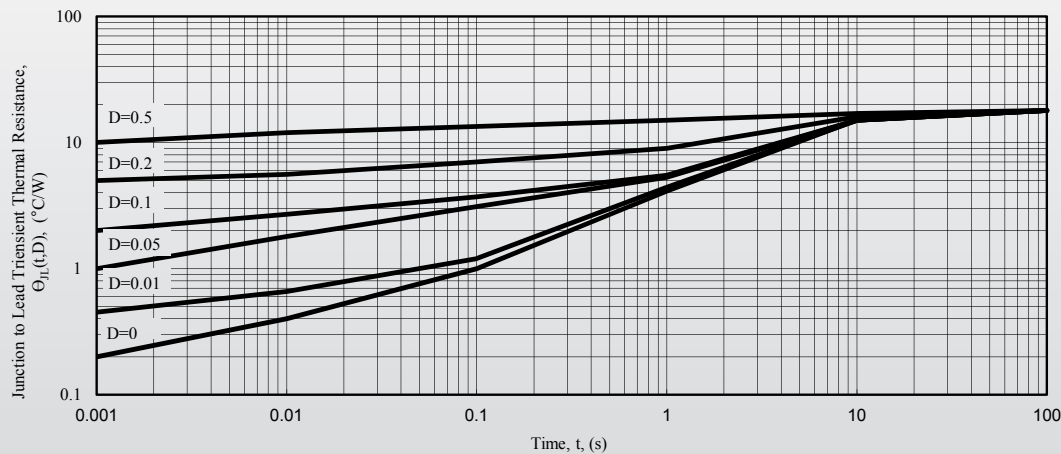
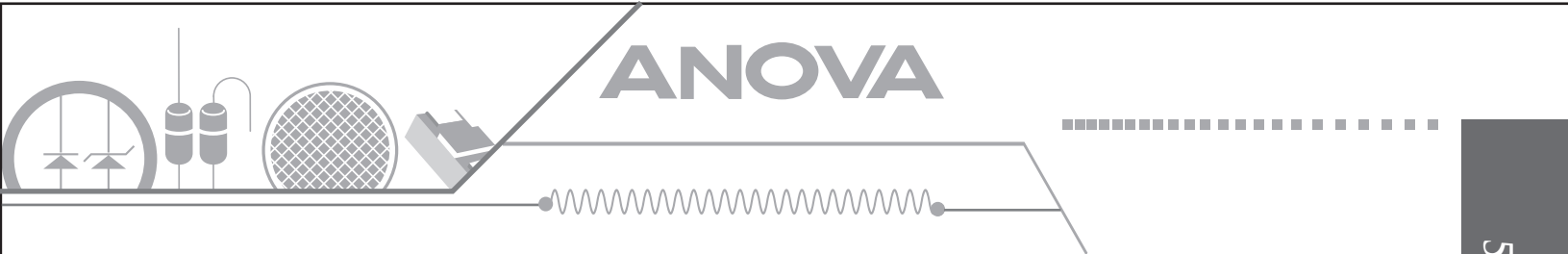


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch



Electrical Characteristics(T_A=25°C unless otherwise noted)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	V _Z @ I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R		I _{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1N5333B	3.3	380	3.0	400	1	300.0	1.0	1437.0
1N5334B	3.6	350	2.5	500	1	150.0	1.0	1317.0
1N5335B	3.9	320	2.0	500	1	50.0	1.0	1216.0
1N5336B	4.3	290	2.0	500	1	10.0	1.0	1103.0
1N5337B	4.7	260	2.0	450	1	5.0	1.0	1009.0
1N5338B	5.1	240	1.5	400	1	1.0	1.0	930.0
1N5339B	5.6	220	1.0	400	1	1.0	2.0	846.0
1N5340B	6.0	200	1.0	300	1	1.0	3.0	790.0
1N5341B	6.2	200	1.0	200	1	1.0	3.0	765.0
1N5342B	6.8	175	1.0	200	1	10.0	5.2	700.0
1N5343B	7.5	175	1.5	200	1	10.0	5.7	630.0
1N5344B	8.2	150	1.5	200	1	10.0	6.2	580.0
1N5345B	8.7	150	2.0	200	1	10.0	6.6	545.0
1N5346B	9.1	150	2.0	150	1	7.5	6.9	520.0
1N5347B	10.0	125	2.0	125	1	5.0	7.6	475.0
1N5348B	11.0	125	2.5	125	1	5.0	8.4	430.0
1N5349B	12.0	100	2.5	125	1	2.0	9.1	395.0
1N5350B	13.0	100	2.5	100	1	1.0	9.9	365.0
1N5351B	14.0	100	2.5	75	1	1.0	10.6	340.0
1N5352B	15.0	75	2.5	75	1	1.0	11.5	315.0
1N5353B	16.0	75	2.5	75	1	1.0	12.2	295.0
1N5354B	17.0	70	2.5	75	1	0.5	12.9	280.0
1N5355B	18.0	65	2.5	75	1	0.5	13.7	265.0
1N5356B	19.0	65	3.0	75	1	0.5	14.4	250.0
1N5357B	20.0	65	3.0	75	1	0.5	15.2	237.0
1N5358B	22.0	50	3.5	75	1	0.5	16.7	216.0
1N5359B	24.0	50	3.5	100	1	0.5	18.2	198.0
1N5360B	25.0	50	4.0	110	1	0.5	19.0	190.0
1N5361B	27.0	50	5.0	120	1	0.5	20.6	176.0
1N5362B	28.0	50	6.0	130	1	0.5	21.2	170.0
1N5363B	30.0	40	8.0	140	1	0.5	22.8	158.0
1N5364B	33.0	40	10.0	150	1	0.5	25.1	144.0
1N5365B	36.0	30	11.0	160	1	0.5	27.4	132.0
1N5366B	39.0	30	14.0	170	1	0.5	29.7	122.0
1N5367B	43.0	30	20.0	190	1	0.5	32.7	110.0
1N5368B	47.0	25	25.0	210	1	0.5	35.8	100.0
1N5369B	51.0	25	27.0	230	1	0.5	38.8	93.0
1N5370B	56.0	20	35.0	280	1	0.5	42.6	86.0
1N5371B	60.0	20	40.0	350	1	0.5	45.5	79.0
1N5372B	62.0	20	42.0	400	1	0.5	47.1	76.0
1N5373B	68.0	20	44.0	500	1	0.5	51.7	70.0
1N5374B	75.0	20	45.0	620	1	0.5	56.0	63.0
1N5375B	82.0	15	65.0	720	1	0.5	62.2	58.0
1N5376B	87.0	15	75.0	760	1	0.5	66.0	54.5
1N5377B	91.0	15	75.0	760	1	0.5	69.2	52.5
1N5378B	100.0	12	90.0	800	1	0.5	76.0	47.5

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %
- (2) The reve surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC method



Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$		I_{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1N5379B	110.0	12	125.0	1000	1	0.5	83.6	43.0
1N5380B	120.0	10	170.0	1150	1	0.5	91.2	39.5
1N5381B	130.0	10	190.0	1250	1	0.5	98.8	36.6
1N5382B	140.0	8	230.0	1500	1	0.5	106.0	34.0
1N5383B	150.0	8	330.0	1500	1	0.5	114.0	31.6
1N5384B	160.0	8	350.0	1650	1	0.5	122.0	29.4
1N5385B	170.0	8	380.0	1750	1	0.5	129.0	28.0
1N5386B	180.0	5	430.0	1750	1	0.5	137.0	26.4
1N5387B	190.0	5	450.0	1850	1	0.5	144.0	25.0
1N5388B	200.0	5	480.0	1850	1	0.5	152.0	23.6