

500mW,6.8 - 91V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Zener voltage tolerance is $\pm 5\%$
- Silicon Planar Power Zener Diodes
- Total power dissipation: Max 500mW
- Moisture sensitivity: level 1, per J-STD-020



DO-35(DO-204AH)

Applications

Protection from high voltage, high energy transients, voltage stabilization.

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Ratings	Unit
Zener voltage	V_Z	See Next Table	V
Power dissipation at $T_L=75^\circ\text{C}$	P_{tot}	500	mW
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	300	$^\circ\text{C/W}$
Maximum junction temperature	T_J	175	$^\circ\text{C}$
Storage temperature range	T_{STG}	-65 to +175	$^\circ\text{C}$

Note:

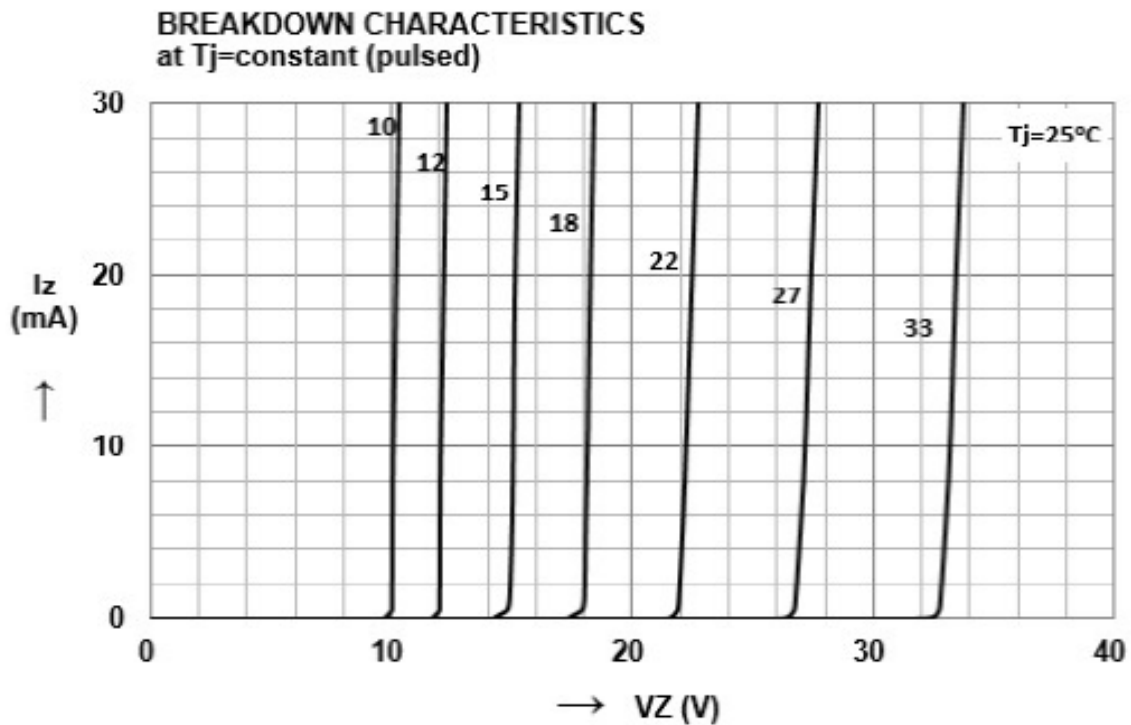
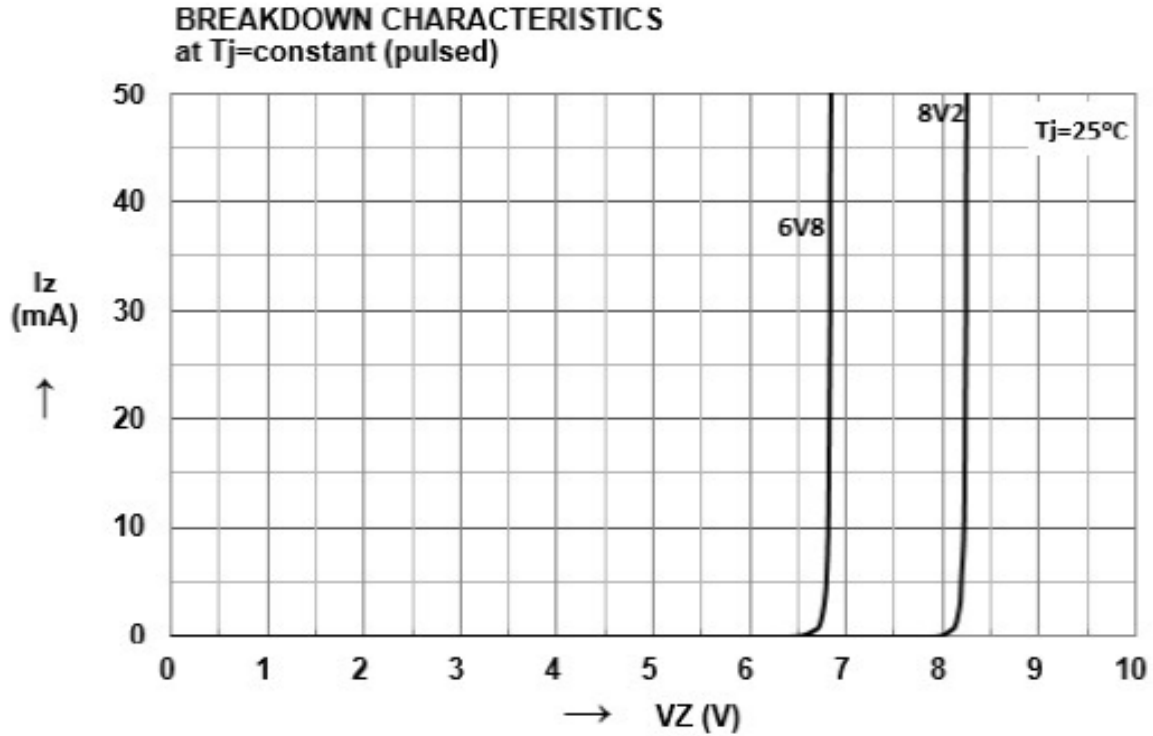
1. Valid provided that leads at a distance of 9.5mm from case are kept at ambient temperature.

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

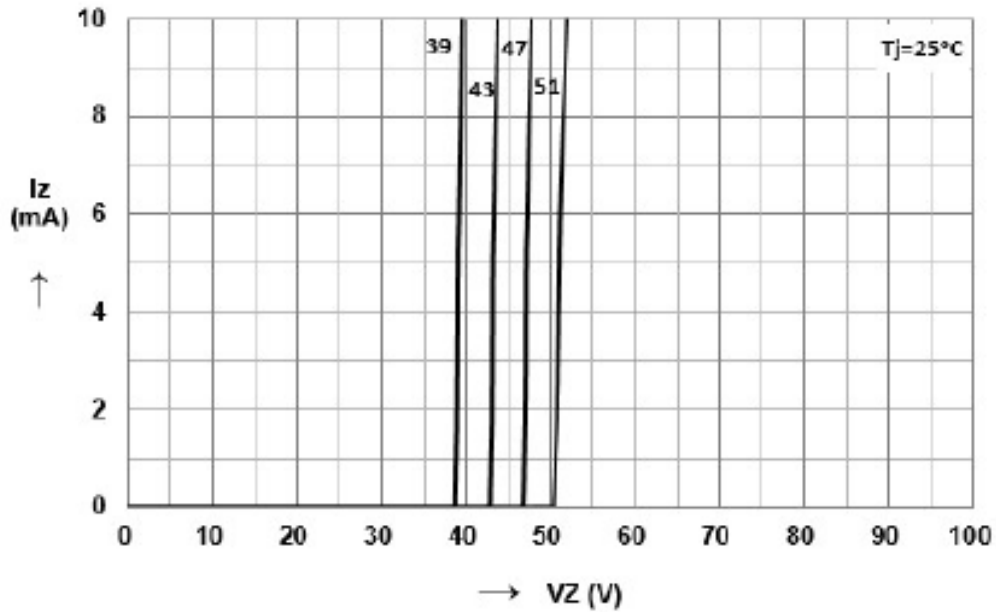
Part Number	V _Z at I _{ZT} (V)			I _{ZT} (mA)	Maximum zener impedance		I _{ZK} (mA)	Maximum reverse leakage at V _R (μA)	Test voltage V _R (V)	Maximum Zener Current I _{ZM} (mA)
	Min	Typ	Max		Z _{ZT} at I _{ZT} (Ω)	Z _{ZK} at I _{ZK} (Ω)				
1N957B	6.46	6.8	7.14	18.5	4.5	700	1.0	150	5.2	58
1N958B	7.13	7.5	7.88	16.5	5.5	700	0.5	75	5.7	53
1N959B	7.79	8.2	8.61	15.0	6.5	700	0.5	50	6.2	47
1N960B	8.65	9.1	9.56	14.0	7.5	700	0.5	25	6.9	43
1N961B	9.50	10	10.50	12.5	8.5	700	0.25	10	7.6	40
1N962B	10.45	11	11.55	11.5	9.5	700	0.25	5	8.4	36
1N963B	11.40	12	12.60	10.5	11.5	700	0.25	5	9.1	32
1N964B	12.35	13	13.65	9.5	13	700	0.25	5	9.9	29
1N965B	14.25	15	15.75	8.5	16	700	0.25	5	11.4	27
1N966B	15.20	16	16.80	7.8	17	700	0.25	5	12.2	24
1N967B	17.10	18	18.90	7.0	21	750	0.25	5	13.7	21
1N968B	19.00	20	21.00	6.2	25	750	0.25	5	15.2	20
1N969B	20.90	22	23.10	5.6	29	750	0.25	5	16.7	18
1N970B	22.80	24	25.20	5.2	33	750	0.25	5	18.2	16
1N971B	25.65	27	28.35	4.6	41	750	0.25	5	20.6	14
1N972B	28.50	30	31.50	4.2	49	1000	0.25	5	22.8	13
1N973B	31.35	33	34.65	3.8	58	1000	0.25	5	25.1	12
1N974B	34.20	36	37.80	3.4	70	1000	0.25	5	27.4	11
1N975B	37.05	39	40.95	3.2	80	1000	0.25	5	29.7	10
1N976B	40.85	43	45.15	3.0	93	1500	0.25	5	32.7	9.2
1N977B	44.65	47	49.35	2.7	105	1500	0.25	5	35.8	8.5
1N978B	48.45	51	53.55	2.5	125	1500	0.25	5	38.8	7.8
1N979B	53.20	56	58.80	2.2	150	2000	0.25	5	42.6	6.9
1N980B	58.90	62	65.10	2.0	185	2000	0.25	5	47.1	6.3
1N981B	64.60	68	71.40	1.8	230	2000	0.25	5	51.7	5.7
1N982B	71.25	75	78.75	1.7	270	2000	0.25	5	56.0	5.2
1N983B	77.90	82	86.10	1.5	330	3000	0.25	5	62.2	4.7
1N984B	86.45	91	95.55	1.4	440	3000	0.25	5	69.2	4.3

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

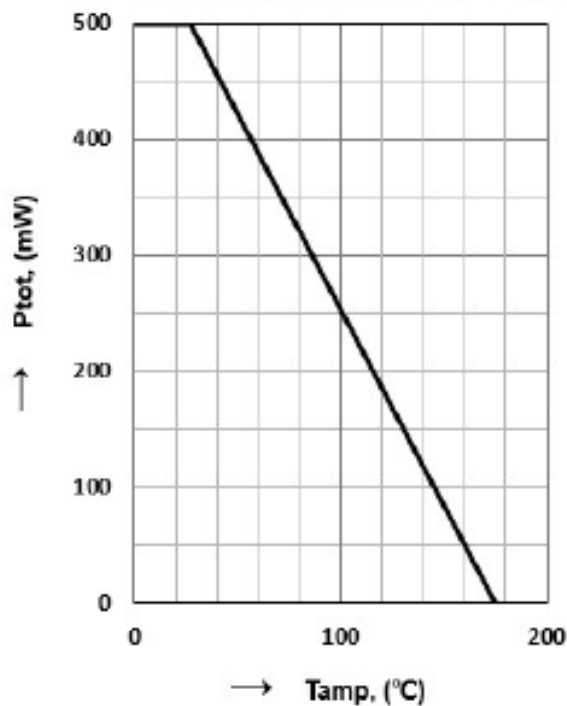


BREAKDOWN CHARACTERISTICS at T_j -constant (pulsed)



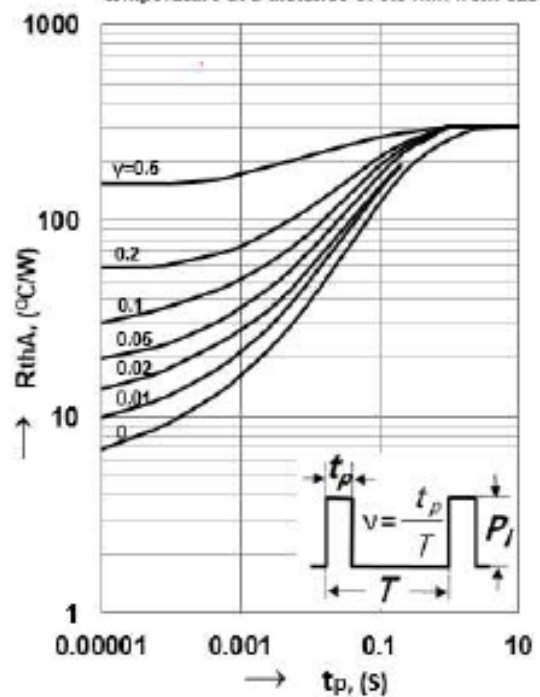
Admissible power dissipation versus ambient temperature

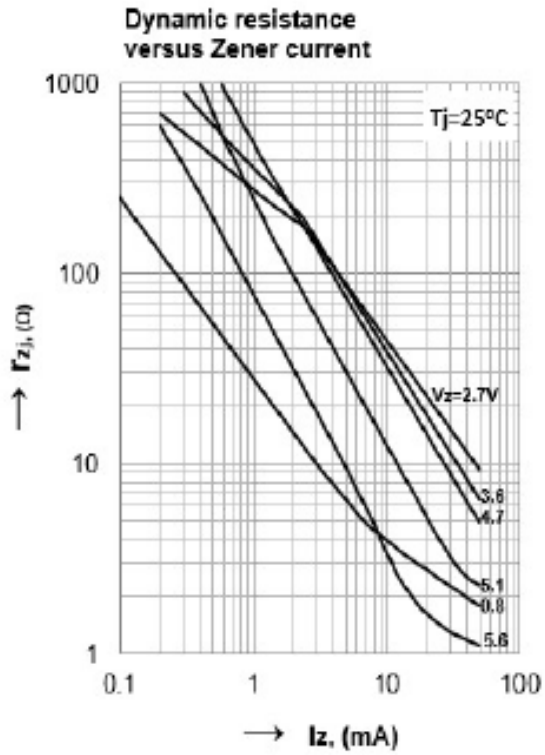
Valid provided that leads are kept at ambient temperature at a distance of 9.5 mm from case



Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 9.5 mm from case



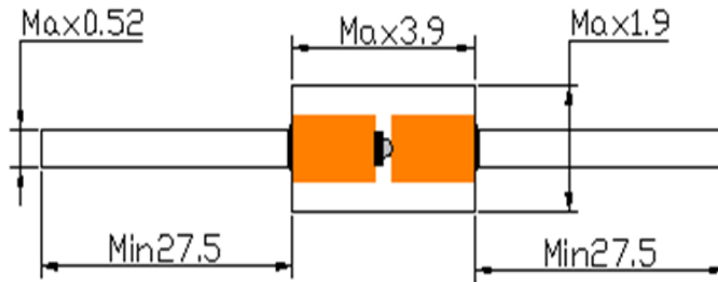


Package Outline Dimensions

in inches (millimeters)

DO-35 (DO-204AH)

CASE DIMENSION (DO-35 Type, 52mm), Unit: mm



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.31	Modify document format
Rev.C	2024.08.12	Modify zener voltage tolerance

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