

## ■ Features

- Silicon Planar Power Zener Diodes for use in stabilizing and clipping circuits with high power rating. Standard Zener voltage tolerance is 10%. Add suffix A for 5% tolerance. Other tolerances available upon request.



## Absolute Maximum Ratings ( $T_a=25^{\circ}\text{C}$ )

	Symbols	Values	Units
Zener current see Table "Characteristics"			
Power dissipation at $T_{amb}=25^{\circ}\text{C}$	$P_{tot}$	1 <sup>1)</sup>	W
Junction temperature	$T_j$	200	$^{\circ}\text{C}$
Storage temperature range	$T_s$	-65 to +200	$^{\circ}\text{C}$

**Note:**

(1) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

## Characteristics at $T_{amb}=25^{\circ}\text{C}$

	Symbols	Min.	Typ.	Max.	Units
Thermal resistance junction to ambient Air	$R_{\theta JA}$	-	-	170 <sup>1)</sup>	K/W
Forward voltage at $I_F=200\text{mA}$	$V_F$	-	-	1.2	V

**Note:**

(1) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

Device	$V_Z$ (V) @ $I_Z$ (Note 1)			Test Current $I_Z$ (mA)	Max. Zener Impedance			Leakage Current	
	Min.	Typ.	Max.		$Z_Z$ @ $I_Z$ ( $\Omega$ )	$Z_{ZK}$ @ $I_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu$ A)	$V_R$ (V)
1N4728A	3.315	3.3	3.465	76	10	400	1	100	1
1N4729A	3.42	3.6	3.78	69	10	400	1	100	1
1N4730A	3.705	3.9	4.095	64	9	400	1	50	1
1N4731A	4.085	4.3	4.515	58	9	400	1	10	1
1N4732A	4.465	4.7	4.935	53	8	500	1	10	1
1N4733A	4.845	5.1	5.355	49	7	550	1	10	1
1N4734A	5.32	5.6	5.88	45	5	600	1	10	2
1N4735A	5.89	6.2	6.51	41	2	700	1	10	3
1N4736A	6.46	6.8	7.14	37	3.5	700	1	10	4
1N4737A	7.125	7.5	7.875	34	4	700	0.5	10	5
1N4738A	7.79	8.2	8.61	31	4.5	700	0.5	10	6
1N4739A	8.645	9.1	9.555	28	5	700	0.5	10	7
1N4740A	9.5	10	10.5	25	7	700	0.25	10	7.6
1N4741A	10.45	11	11.55	23	8	700	0.25	5	8.4
1N4742A	11.4	12	12.6	21	9	700	0.25	5	9.1
1N4743A	12.35	13	13.65	19	10	700	0.25	5	9.9
1N4744A	14.25	15	15.75	17	14	700	0.25	5	11.4
1N4745A	15.2	16	16.8	15.5	16	700	0.25	5	12.2
1N4746A	17.1	18	18.9	14	20	750	0.25	5	13.7
1N4747A	19	20	21	12.5	22	750	0.25	5	15.2

Device	$V_Z$ (V) @ $I_Z$ (Note 1)			Test Current $I_Z$ (mA)	Max. Zener Impedance			Leakage Current	
	Min.	Typ.	Max.		$Z_Z$ @ $I_Z$ ( $\Omega$ )	$Z_{ZK}$ @ $I_{ZK}$ ( $\Omega$ )	$I_{ZK}$ (mA)	$I_R$ ( $\mu$ A)	$V_R$ (V)
1N4748A	20.9	22	23.1	11.5	23	750	0.25	5	16.7
1N4749A	22.8	24	25.2	10.5	25	750	0.25	5	18.2
1N4750A	25.65	27	28.35	9.5	35	750	0.25	5	20.6
1N4751A	28.5	30	31.5	8.5	40	1000	0.25	5	22.8
1N4752A	31.35	33	34.65	7.5	45	1000	0.25	5	25.1
1N4753A	34.2	36	37.8	7	50	1000	0.25	5	27.4
1N4754A	37.05	39	40.95	6.5	60	1000	0.25	5	29.7
1N4755A	40.85	43	45.15	6	70	1500	0.25	5	32.7
1N4756A	44.65	47	49.35	5.5	80	1500	0.25	5	35.8
1N4757A	48.45	51	53.55	5	95	1500	0.25	5	38.8
1N4758A	53.2	56	58.8	4.5	110	2000	0.25	5	42.6
1N4759A	58.9	62	65.1	4	125	2000	0.25	5	47.1
1N4760A	64.6	68	71.4	3.7	150	2000	0.25	5	51.7
1N4761A	71.25	75	78.75	3.3	175	2000	0.25	5	56
1N4762A	77.9	82	86.1	3	200	3000	0.25	5	62.2
1N4763A	86.45	91	95.55	2.8	250	3000	0.25	5	69.2
1N4764A	95	100	105	2.5	350	3000	0.25	5	76

**Notes:**

- (1) The Zener Impedance is derived from the 60 Hz 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  $I_{ZK}$ . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.
- (2) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.
- (3) Measured under thermal equilibrium and DC test conditions.

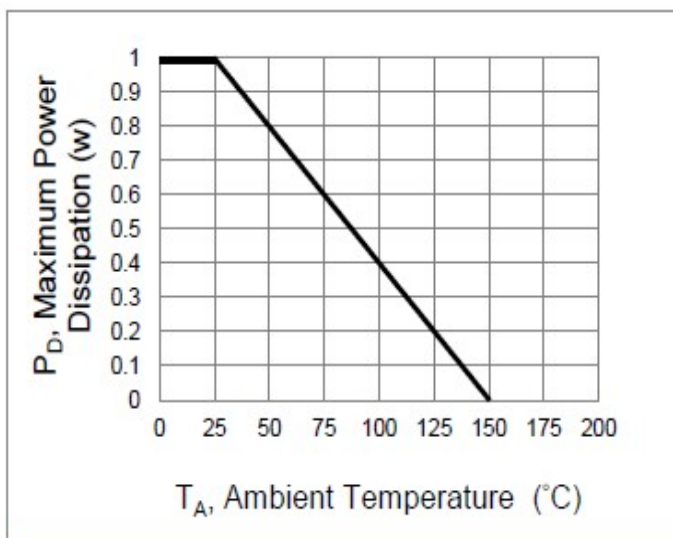


Fig.1 Steady-State Power Derating Curve

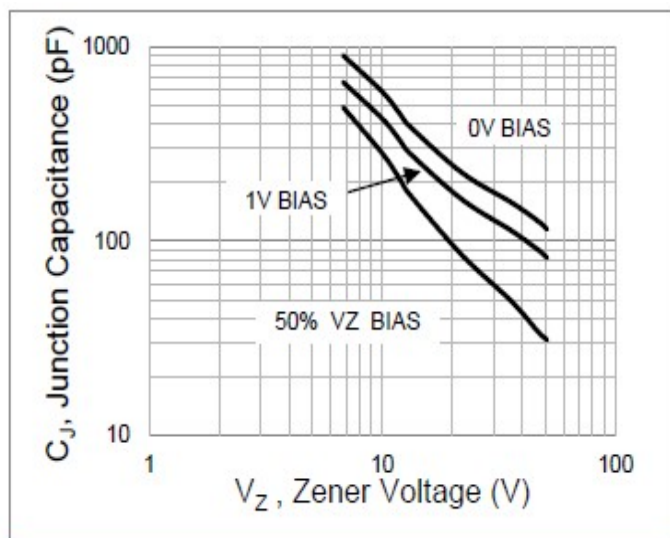


Fig.2 Typical Junction Capacitance

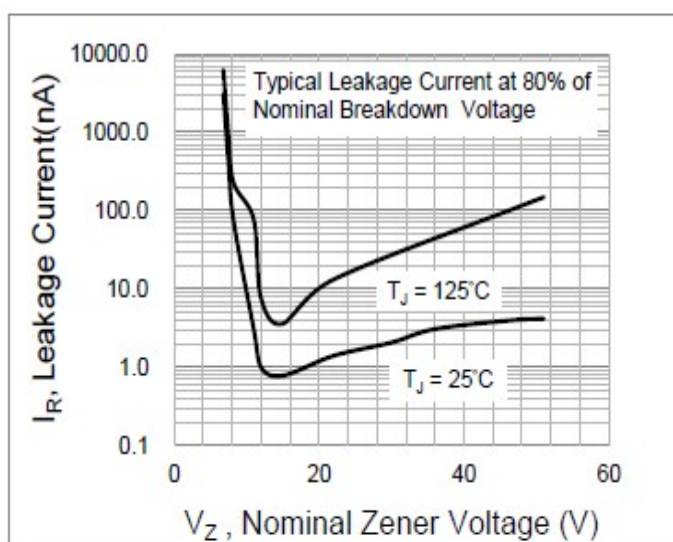


Fig.3 Typical Leakage Characteristics

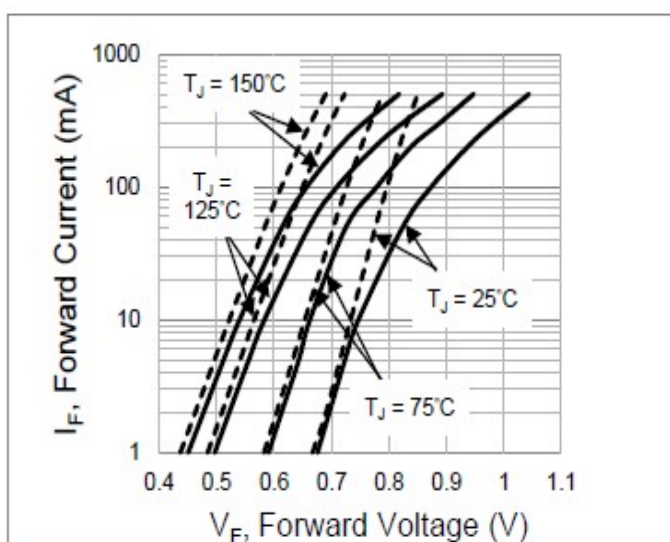


Fig.4 Typical Forward Characteristics

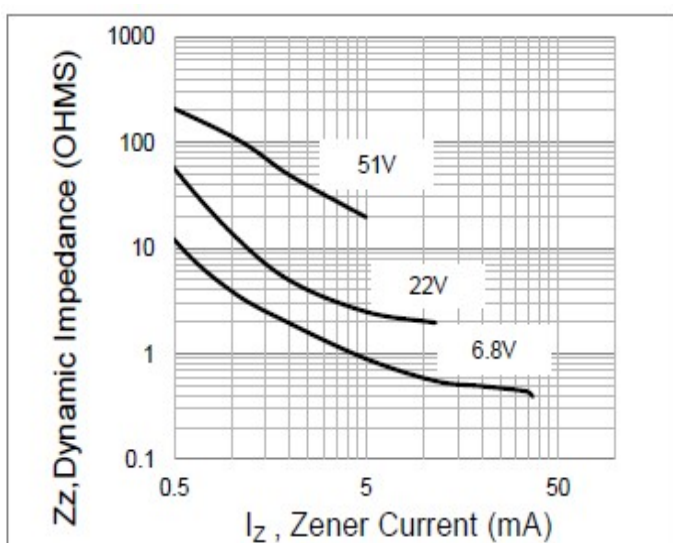


Fig.5 Typical Effect Of Zener Current On Zener Impedance

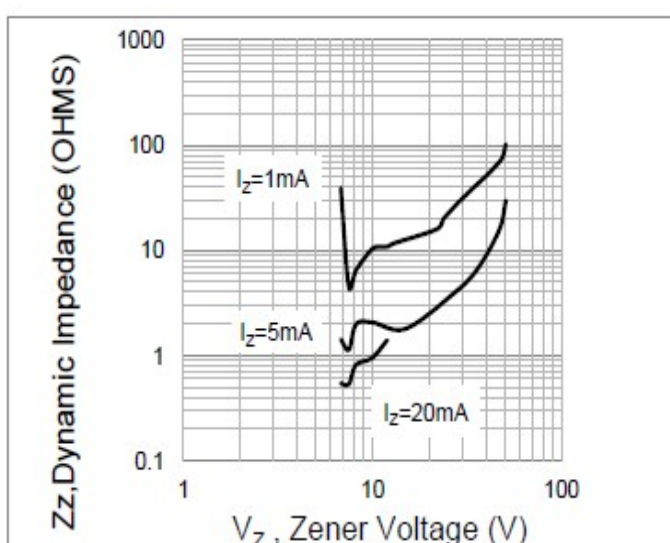
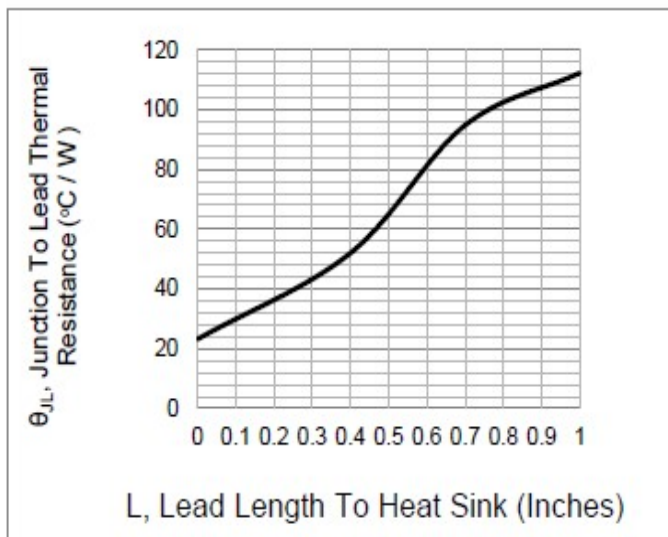
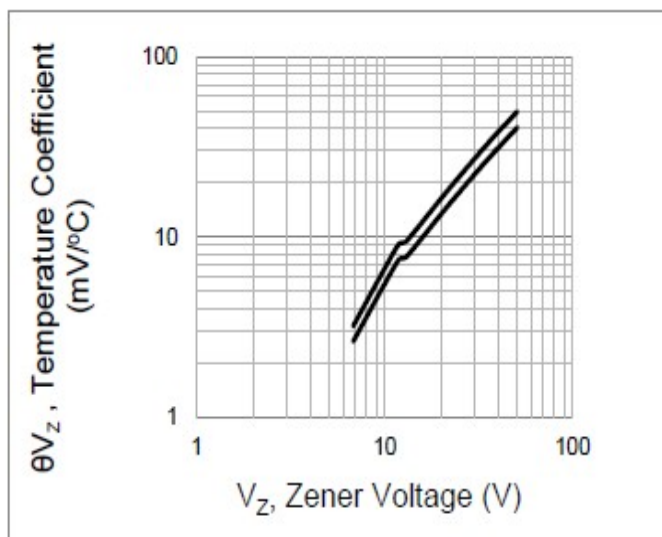


Fig.6 Typical Effect Of Zener Voltage On Zener Impedance



**Fig.7 Thermal Resistance Versus Lead Length**

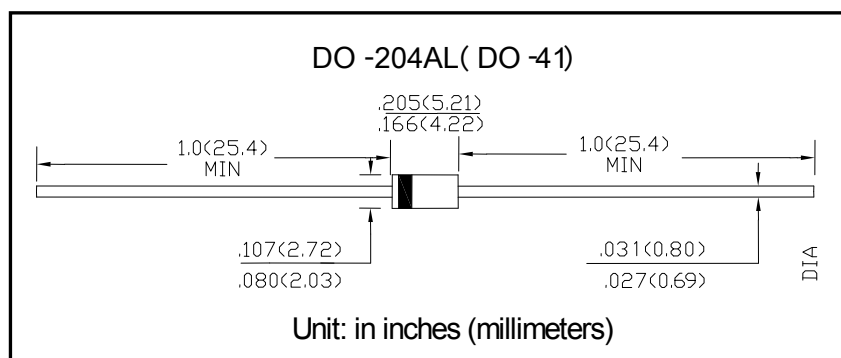


**Fig.8 Temperature Coefficient (+25 $^{\circ}\text{C}$  To +150 $^{\circ}\text{C}$  Temperature Range ; 90% Of The Units Are In The Ranges Indicated)**

### Ordering Information (Example)

PREFERED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
1N4728A THRU 1N4764A	DO-41	5000	5000	50000	Ammo box

### Outline Dimensions



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