



YEA SHIN TECHNOLOGY CO., LTD

1N47xxA

## 1W Zener Diode

V<sub>Z</sub> - 6.8 to 330 V



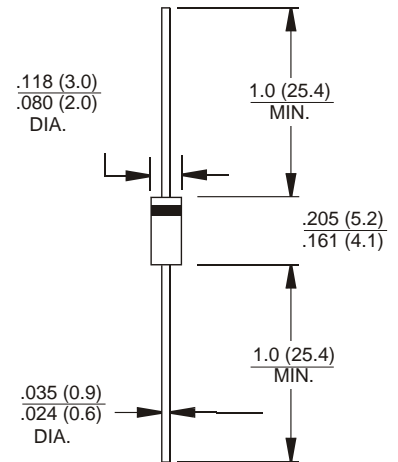
### Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Lead (Pb)-free component
- For use in stabilizing and clipping circuits with high power rating

### Mechanical data

- Case : DO-41
- Epoxy : UL94V-0 rate flame retardant
- Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- Polarity : Color band denotes cathode end
- Weight : 0.318 gram (approximate)

### DO-41



Dimensions in inches and (millimeters)

### Absolute Maximum Ratings

Parameter	Symbol	Value	UNIT
DC Power Dissipation at TL = 50 °C (Note1)	P <sub>D</sub>	1.0	W
Maximum Forward Voltage at I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.2	V
Maximum Thermal Resistance Junction to Ambient Air (Note2)	R <sub>thJA</sub>	170	K/W
Junction Temperature Range	T <sub>J</sub>	- 55 to + 175	°C
Storage Temperature Range	T <sub>STG</sub>	- 55 to + 175	°C

Note:

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

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

# DEVICE CHARACTERISTICS

## 1N47xxA

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Reverse Leakage Current		Max. DC Zener Current	Max. Surge Current	Marking Code
	VZ @ IZT			IZT@ZZT		ZZK@IZK		IR@VR		IZM	IRM	
	Min. V	Nom. V	Max. V	mA	Ω	Ω	mA	uA	V	mA	mApK	
1N4736A	6.46	6.8	7.14	37	3.5	700	1	5	4	133	660	1N4736A
1N4737A	7.125	7.5	7.875	34	4	700	0.5	5	5	121	605	1N4737A
1N4738A	7.79	8.2	8.61	31	4.5	700	0.5	5	6	110	550	1N4738A
1N4739A	8.645	9.1	9.555	28	5	700	0.5	0.5	7	100	500	1N4739A
1N4740A	9.5	10	10.5	25	7	700	0.25	0.5	7.6	91	454	1N4740A
1N4741A	10.45	11	11.55	23	8	700	0.25	0.5	8.4	83	414	1N4741A
1N4742A	11.4	12	12.6	21	9	700	0.25	0.5	9.1	76	380	1N4742A
1N4743A	12.35	13	13.65	19	10	700	0.25	0.5	9.9	69	344	1N4743A
1N4744A	14.25	15	15.75	17	14	700	0.25	0.5	11.4	61	305	1N4744A
1N4745A	15.2	16	16.8	15.5	16	700	0.25	0.5	12.2	57	285	1N4745A
1N4746A	17.1	18	18.9	14	20	700	0.25	0.5	13.7	50	250	1N4746A
1N4747A	19	20	21	12.5	22	750	0.25	0.5	15.2	45	225	1N4747A
1N4748A	20.9	22	23.1	11.5	23	750	0.25	0.5	16.7	41	205	1N4748A
1N4749A	22.8	24	25.2	10.5	25	750	0.25	0.5	18.2	38	190	1N4749A
1N4750A	25.65	27	28.35	9.5	35	750	0.25	0.5	20.6	34	170	1N4750A
1N4751A	28.5	30	31.5	8.5	40	750	0.25	0.5	22.8	30	150	1N4751A
1N4752A	31.35	33	34.65	7.5	45	1000	0.25	0.5	25.1	27	135	1N4752A
1N4753A	34.2	36	37.8	7	50	1000	0.25	0.5	27.4	25	125	1N4753A
1N4754A	37.05	39	40.95	6.5	60	1000	0.25	0.5	29.7	23	115	1N4754A
1N4755A	40.85	43	45.15	6	70	1000	0.25	0.5	32.7	22	110	1N4755A
1N4756A	44.65	47	49.35	5.5	80	1500	0.25	0.5	35.8	19	95	1N4756A
1N4757A	48.45	51	53.55	5	95	1500	0.25	0.5	38.8	18	90	1N4757A
1N4758A	53.2	56	58.8	4.5	110	1500	0.25	0.5	42.6	16	80	1N4758A
1N4759A	58.9	62	65.1	4	125	2000	0.25	0.5	47.1	14	70	1N4759A
1N4760A	64.6	68	71.4	3.7	150	2000	0.25	0.5	51.7	13	65	1N4760A
1N4761A	71.25	75	78.75	3.3	175	2000	0.25	0.5	56	12	60	1N4761A
1N4762A	77.9	82	86.1	3	200	2000	0.25	0.5	62.2	11	55	1N4762A
1N4763A	86.45	91	95.55	2.8	250	3000	0.25	0.5	69.2	10	50	1N4763A
1N4764A	95	100	105	2.5	350	3000	0.25	0.5	76	9	45	1N4764A
Z1110A	104.5	110	115.5	2.3	450	4000	0.25	0.5	83.6	8.6	40	Z1110A
Z1120A	114	120	126	2	550	4500	0.25	0.5	91.2	7.8	37	Z1120A
Z1130A	123.5	130	136.5	1.9	700	5000	0.25	0.5	98.8	7	34	Z1130A
Z1150A	142.5	150	157.5	1.7	1000	6000	0.25	0.5	114	6.4	30	Z1150A
Z1160A	152	160	168	1.6	1100	6500	0.25	0.5	121.6	5.8	28	Z1160A
Z1180A	171	180	189	1.4	1200	7000	0.25	0.5	136.8	5.2	25	Z1180A
Z1200A	190	200	210	1.2	1900	9990	0.25	0.5	152	4.7	22	Z1200A
Z1220A	209	220	231	1	1600	8000	0.25	0.5	167.2	4	20	Z1220A
Z1240A	228	240	252	0.9	1800	8500	0.25	0.5	182.4	3.8	19	Z1240A
Z1250A	237.5	250	262.5	0.9	2000	9000	0.25	0.5	190	3.6	18	Z1250A
Z1270A	256.5	270	283.5	0.8	2100	9000	0.25	0.5	205	3.3	16	Z1270A
Z1300A	285	300	315	0.8	2300	9500	0.25	0.5	228	3	15	Z1300A
Z1330A	313.5	330	346.5	0.7	2500	9500	0.25	0.5	250.2	2.7	13	Z1330A

### Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ .
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on  $I_{ZT}$  per JEDEC method

# DEVICE CHARACTERISTICS

## 1N47xxA

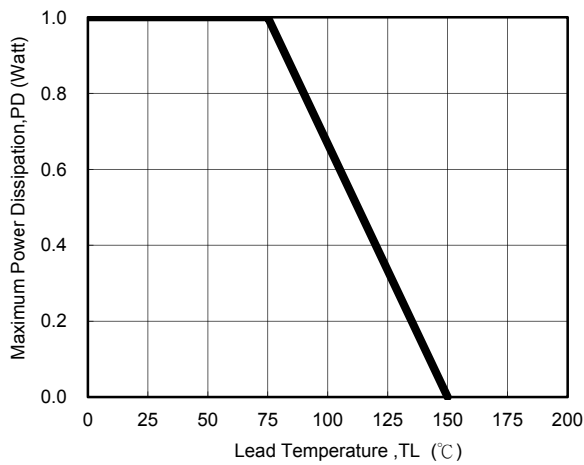


Fig. 1 - Power Temperature Derating Curve

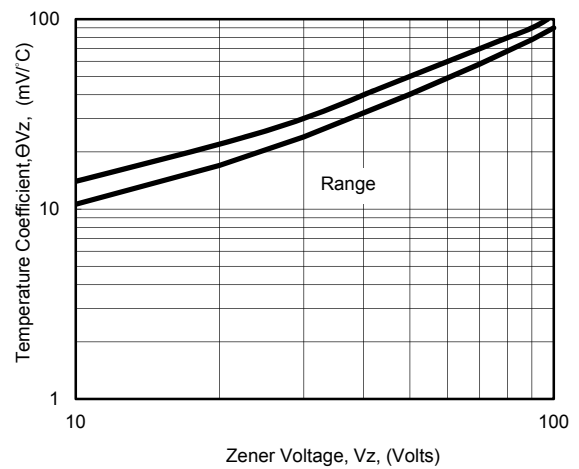


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

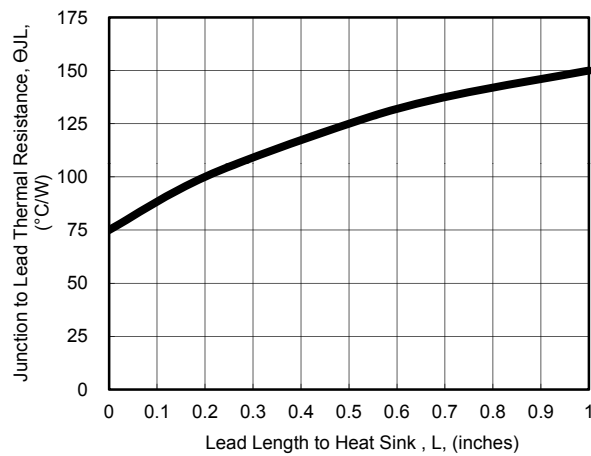


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

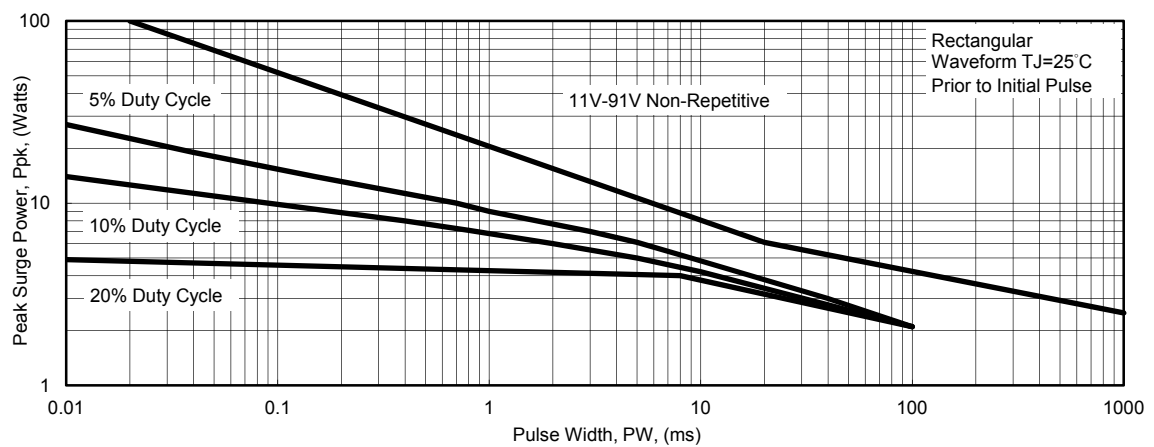


Fig. 4 - Maximum Surge Power