

FEATURES

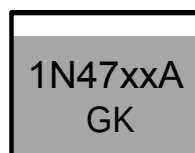
- * 400 Watts Surge Capability at 1ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- * Typical I_R less than 1 A above 10V
- * High temperature soldering guaranteed: 260°C / 10 seconds / .375"(9.5mm) lead length, 5lbs.(2.3kg) tension

MECHANICAL DATA

- Case: DO-41 case
- Weight: Approx. 0.35 gram

VOLTAGE RANGE

3.3 to 100 Volts
1000mW



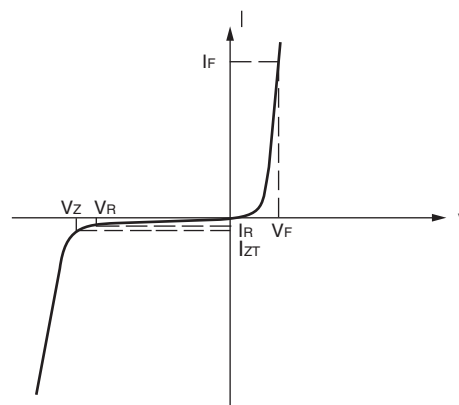
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation @TL=75°C	Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature	P_{tot}	1000	mW
Zener current		I_Z	P_V/V_Z	mA
Thermal resistance junction to ambient air	Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature	R_{thJA}	110	K/W
Junction temperature		T_j	175	°C
Storage temperature range		T_{stg}	- 65 to + 175	°C
Forward voltage (max.)	$I_F = 200 \text{ mA}$	V_F	1.5	V

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC Zener current



Zener Voltage Regulator

RATING AND CHARACTERISTIC CURVES

FIG.1-POWER DISSIPATION VS AMBIENT TEMPERATURE

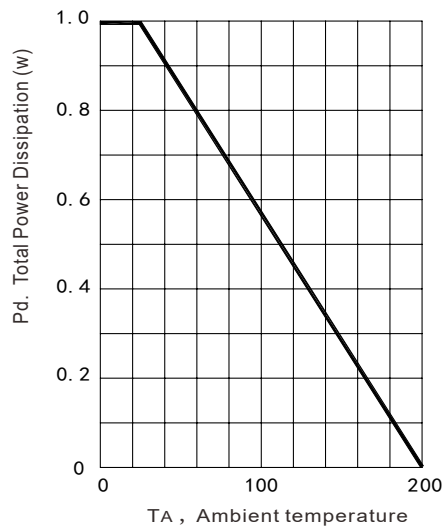


FIG.2-TYPICAL THERMAL RESISTANCE VS LEAD LENGTH

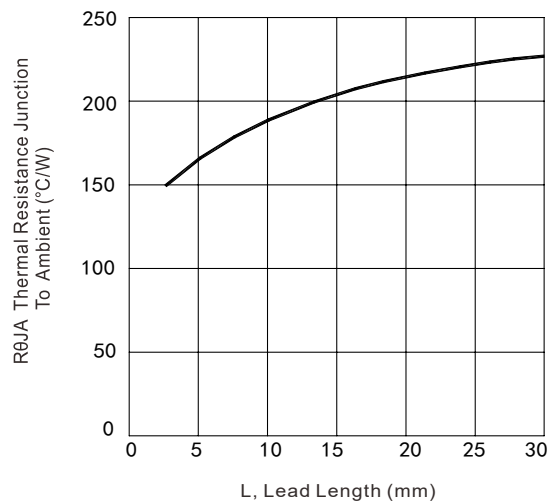


FIG.3-JUNCTION CAPACITANCE VS ZENER VOLTAGE

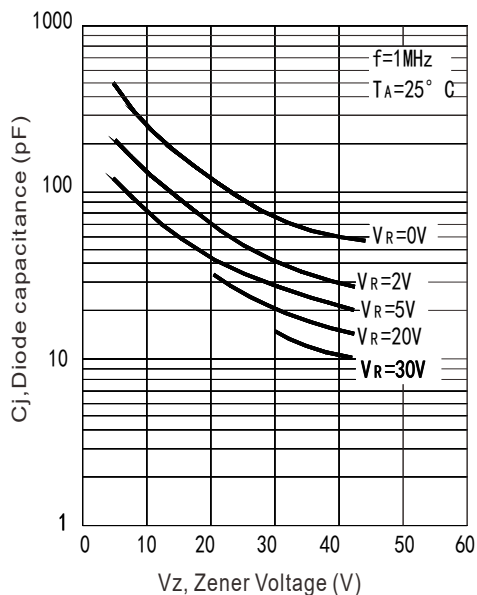
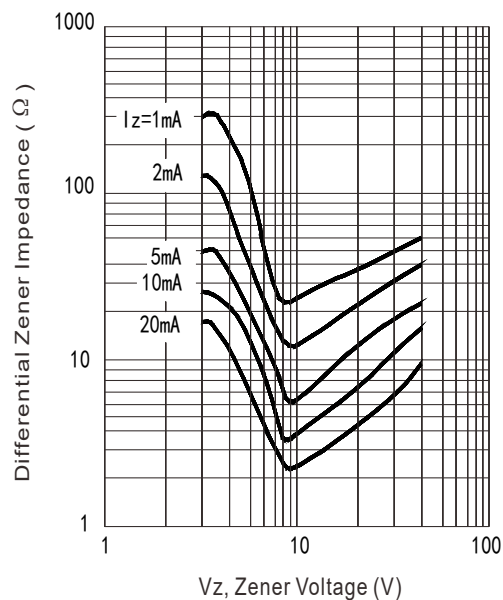
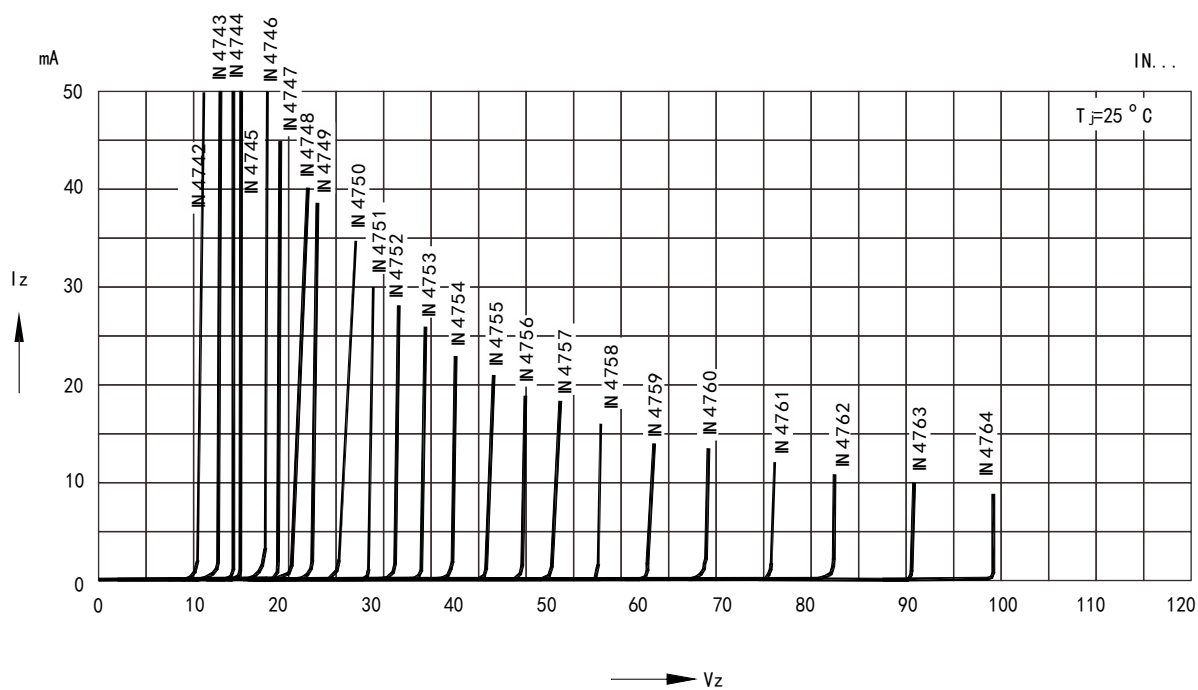
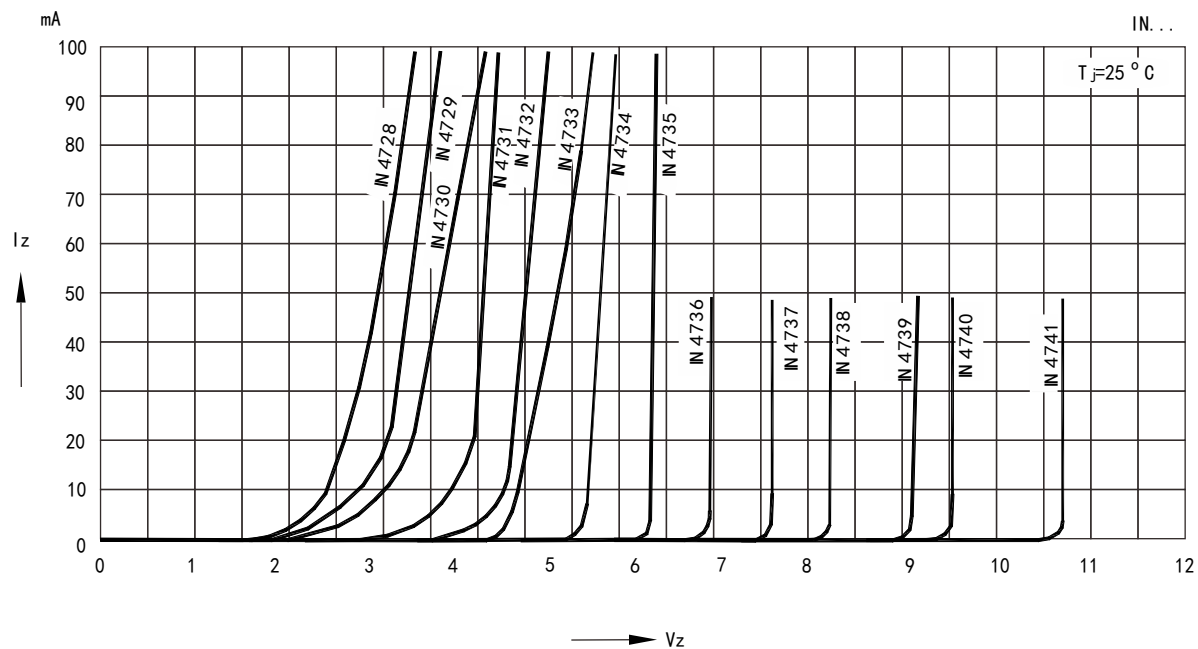


FIG.4-TYPICAL ZENER IMPEDANCE VS ZENER VOLTAGE



Breakdown characteristics

$T_J = \text{constant (pulsed)}$



ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

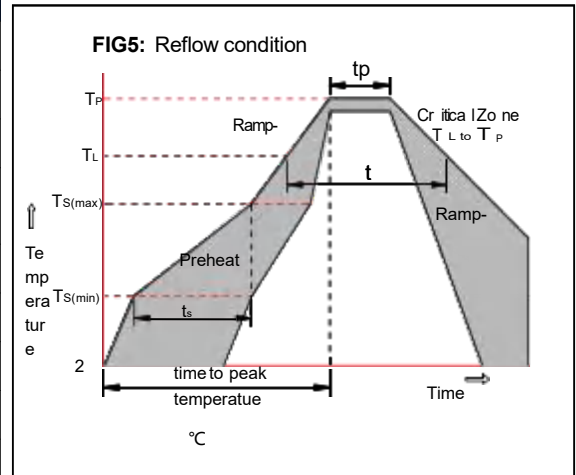
PART NUMBER	ZENER VOLTAGE RANGE ⁽¹⁾	TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE $f = 1\text{ kHz}$		SURGE CURRENT ⁽³⁾	REGULATOR CURRENT ⁽²⁾
	V_Z at I_{ZT1}	I_{ZT1}	I_{ZT2}	I_R at V_R		Z_{ZT} at I_{ZT1}	Z_{ZK} at I_{ZT2}	I_R	I_{ZM}
	V	mA	mA	μA	V	Ω		mA	mA
	NOM.			MAX.		TYP.	MAX.		MAX.
1N4728A	3.3	76	1	100	1	10	400	1380	276
1N4729A	3.6	69	1	100	1	10	400	1260	252
1N4730A	3.9	64	1	50	1	9	400	1190	234
1N4731A	4.3	58	1	10	1	9	400	1070	217
1N4732A	4.7	53	1	10	1	8	500	970	193
1N4733A	5.1	49	1	10	1	7	550	890	178
1N4734A	5.6	45	1	10	2	5	600	810	162
1N4735A	6.2	41	1	10	3	2	700	730	146
1N4736A	6.8	37	1	10	4	3.5	700	660	133
1N4737A	7.5	34	0.5	10	5	4	700	605	121
1N4738A	8.2	31	0.5	10	6	4.5	700	550	110
1N4739A	9.1	28	0.5	10	7	5	700	500	100
1N4740A	10	25	0.25	10	7.6	7	700	454	91
1N4741A	11	23	0.25	5	8.4	8	700	414	83
1N4742A	12	21	0.25	5	9.1	9	700	380	76
1N4743A	13	19	0.25	5	9.9	10	700	344	69
1N4744A	15	17	0.25	5	11.4	14	700	304	61
1N4745A	16	15.5	0.25	5	12.2	16	700	285	57
1N4746A	18	14	0.25	5	13.7	20	750	250	50
1N4747A	20	12.5	0.25	5	15.2	22	750	225	45
1N4748A	22	11.5	0.25	5	16.7	23	750	205	41
1N4749A	24	10.5	0.25	5	18.2	25	750	190	38
1N4750A	27	9.5	0.25	5	20.6	35	750	170	34
1N4751A	30	8.5	0.25	5	22.8	40	1000	150	30
1N4752A	33	7.5	0.25	5	25.1	45	1000	135	27
1N4753A	36	7	0.25	5	27.4	50	1000	125	25
1N4754A	39	6.5	0.25	5	29.7	60	1000	115	23
1N4755A	43	6	0.25	5	32.7	70	1500	110	22
1N4756A	47	5.5	0.25	5	35.8	80	1500	95	19
1N4757A	51	5	0.25	5	38.8	95	1500	90	18
1N4758A	56	4.5	0.25	5	42.6	110	2000	80	16
1N4759A	62	4	0.25	5	47.1	125	2000	70	14
1N4760A	68	3.7	0.25	5	51.7	150	2000	65	13
1N4761A	75	3.3	0.25	5	56	175	2000	60	12
1N4762A	82	3	0.25	5	62.2	200	3000	55	11
1N4763A	91	2.8	0.25	5	69.2	250	3000	50	10
1N4764A	100	2.5	0.25	5	76	350	3000	45	9

Notes

- (1) Based on DC measurement at thermal equilibrium while maintaining the lead temperature (T_L) at $30\text{ }^{\circ}\text{C} + 1\text{ }^{\circ}\text{C}$, 9.5 mm (3/8") from the diode body
- (2) Valid provided that electrodes at a distance of 4 mm from case are kept at ambient temperature
- (3) $t_p = 10\text{ ms}$.

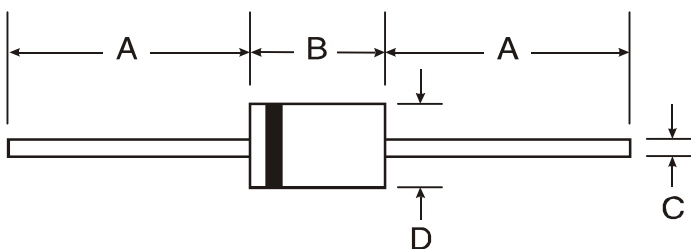
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

DO-41 Plastic



DO-41 Plastic		
Dim	Min	Max
A	25.40	-
B	4.20	5.20
C	0.70	0.90
D	2.00	2.70
All Dimensions in mm		