

FEATURES

- High peak reverse power dissipation
- High reliability
- Low leakage current

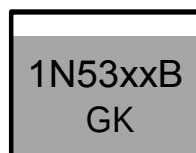
MECHANICAL DATA

- Epoxy: UL94V-0 rate flame retardant
- Lead: Axial lead solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

VOLTAGE RANGE

5.1 to 200 Volts

5W



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%.

Absolute Maximum Ratings (Rating at 25 °C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
DC Power Dissipation @ $T_L = 75^\circ\text{C}$ ¹⁾	P_D	5	W
Junction and Storage Temperature Range	T_j, T_{stg}	- 65 to + 200	°C

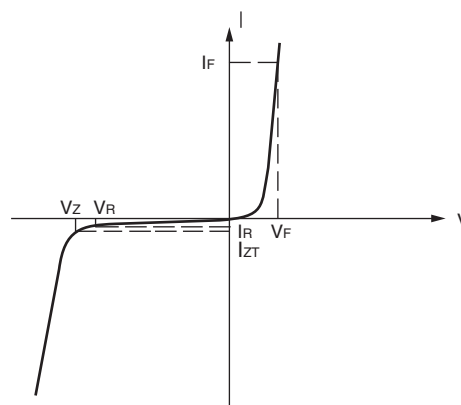
¹⁾ T_L = Lead temperature at 3/8" (9.5 mm) from body

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Forward Voltage at $I_F = 1\text{ A}$	V_F	1.2	V

ELECTRICAL CHARACTERISTICS

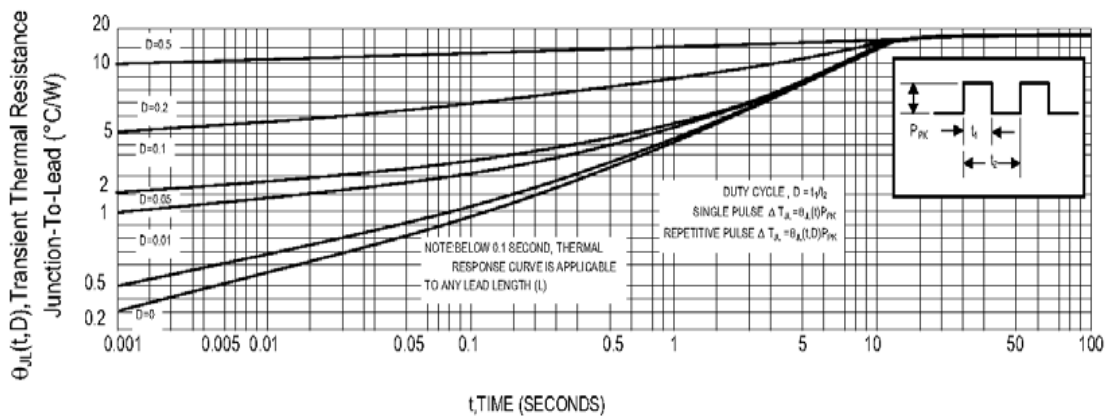
SYMBOL	PARAMETER
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC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



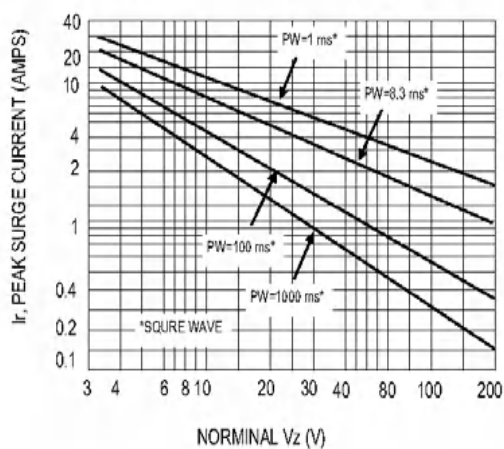
Zener Voltage Regulator

RATING AND CHARACTERISTIC CURVES

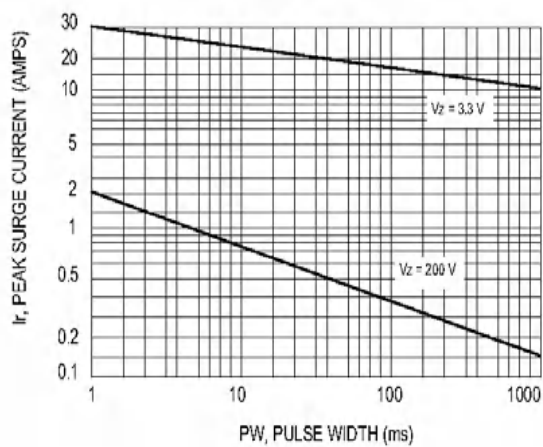
Typical Thermal Response L, Lead Length = 3/8 Inch



Maximum Non-Repetitive Surg Current
versus Nominal Zener Voltage



Peak Surg Current versus
Pulse Width



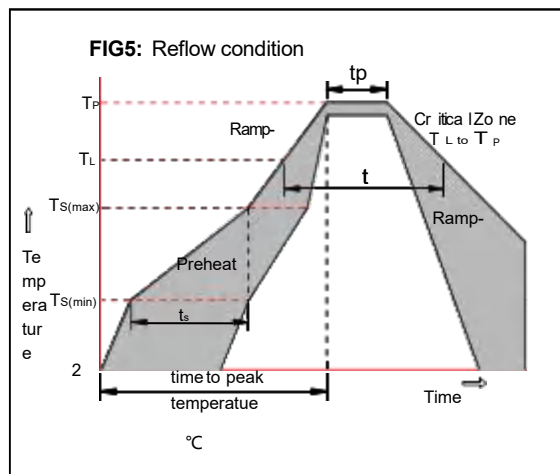
Electrical Characteristics (Rating at 25 °C ambient temperature unless otherwise specified)

Type	Zener Voltage ¹⁾				Zener Impedance				Leakage Current		Maximum DC Zener Current
	V _{Znom}	V _{ZT}		at I _{ZT}	Z _{ZT}	at I _{ZT}	Z _{ZK}	at I _{ZK}	I _R	at V _R	I _{ZM}
	(V)	Min.(V)	Max.(V)	(mA)	Max.(Ω)	(mA)	Max.(Ω)	(mA)	Max.(μA)	(V)	(mA)
1N5338B	5.1	4.85	5.35	240	1.5	240	400	1	1	1	930
1N5339B	5.6	5.32	5.88	220	1	220	400	1	1	2	856
1N5340B	6	5.7	6.3	200	1	200	300	1	1	3	790
1N5341B	6.2	5.89	6.51	200	1	200	200	1	1	3	765
1N5342B	6.8	6.46	7.14	175	1	175	200	1	10	5.2	700
1N5343B	7.5	7.13	7.87	175	1.5	175	200	1	10	5.7	630
1N5344B	8.2	7.79	8.61	150	1.5	150	200	1	10	6.2	580
1N5345B	8.7	8.27	9.13	150	2	150	200	1	10	6.6	545
1N5346B	9.1	8.65	9.55	150	2	150	150	1	7.5	6.9	520
1N5347B	10	9.5	10.5	125	2	125	125	1	5	7.6	475
1N5348B	11	10.45	11.55	125	2.5	125	125	1	5	8.4	430
1N5349B	12	11.4	12.6	100	2.5	100	125	1	2	9.1	395
1N5350B	13	12.35	13.65	100	2.5	100	100	1	1	9.9	365
1N5351B	14	13.3	14.7	100	2.5	100	75	1	1	10.6	340
1N5352B	15	14.25	15.75	75	2.5	75	75	1	1	11.5	315
1N5353B	16	15.2	16.8	75	2.5	75	75	1	1	12.2	295
1N5354B	17	16.15	17.85	70	2.5	70	75	1	0.5	12.9	280
1N5355B	18	17.1	18.9	65	2.5	65	75	1	0.5	13.7	265
1N5356B	19	18.05	19.95	65	3	65	75	1	0.5	14.4	250
1N5357B	20	19	21	65	3	65	75	1	0.5	15.2	237
1N5358B	22	20.9	23.1	50	3.5	50	75	1	0.5	16.7	216
1N5359B	24	22.8	25.2	50	3.5	50	100	1	0.5	18.2	198
1N5360B	25	23.75	26.25	50	4	50	110	1	0.5	19	190
1N5361B	27	25.65	28.35	50	5	50	120	1	0.5	20.6	176
1N5362B	28	26.6	29.4	50	6	50	130	1	0.5	21.2	170
1N5363B	30	28.5	31.5	40	8	40	140	1	0.5	22.8	158
1N5364B	33	31.35	34.65	40	10	40	150	1	0.5	25.1	144
1N5365B	36	34.2	37.8	30	11	30	160	1	0.5	27.4	132
1N5366B	39	37.05	40.95	30	14	30	170	1	0.5	29.7	122
1N5367B	43	40.85	45.15	30	20	30	190	1	0.5	32.7	110
1N5368B	47	44.65	49.35	25	25	25	210	1	0.5	35.8	100
1N5369B	51	48.45	53.55	25	27	25	230	1	0.5	38.8	93
1N5370B	56	53.2	58.8	20	35	20	280	1	0.5	42.6	86
1N5371B	60	57	63	20	40	20	350	1	0.5	45.5	79
1N5372B	62	58.9	65.1	20	42	20	400	1	0.5	47.1	76
1N5373B	68	64.6	71.4	20	44	20	500	1	0.5	51.7	70
1N5374B	75	71.25	78.75	20	45	20	620	1	0.5	56	63
1N5375B	82	77.9	86.1	15	65	15	720	1	0.5	62.2	58
1N5376B	87	82.65	91.35	15	75	15	760	1	0.5	66	54.5
1N5377B	91	86.45	95.55	15	75	15	760	1	0.5	69.2	52.5
1N5378B	100	95	105	12	90	12	800	1	0.5	76	47.5
1N5379B	110	104.5	115.5	12	125	12	1000	1	0.5	83.6	43
1N5380B	120	114	126	10	170	10	1150	1	0.5	91.2	39.5
1N5381B	130	123.5	136.5	10	190	10	1250	1	0.5	98.8	36.6
1N5382B	140	133	147	8	230	8	1500	1	0.5	106	34
1N5383B	150	142.5	157.5	8	330	8	1500	1	0.5	114	31.6
1N5384B	160	152	168	8	350	8	1650	1	0.5	122	29.4
1N5385B	170	161.5	178.5	8	380	8	1750	1	0.5	129	28
1N5386B	180	171	189	5	430	5	1750	1	0.5	137	26.4
1N5387B	190	180.5	199.5	5	450	5	1850	1	0.5	144	25
1N5388B	200	190	210	5	480	5	1850	1	0.5	152	23.6

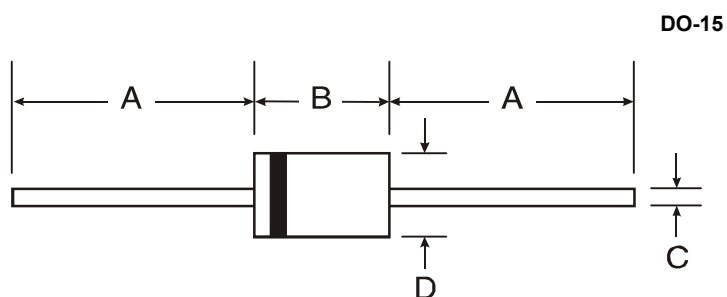
¹⁾ Suffix "A" indicates ± 10% tolerance, Suffix "B" indicates ± 5% tolerance

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) (t_s)	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-15		
Dim	Min	Max
A	25.40	-
B	5.80	7.60
C	0.70	0.90
D	2.60	3.60
All Dimensions in mm		