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1N5338B - 1N5388B

SILICON ZENER DIODES

V_Z : 5.1 - 200 Volts
P_D : 5 Watts

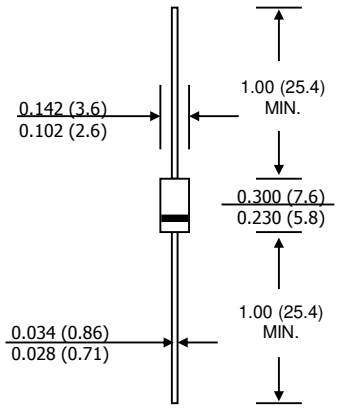
FEATURES :

* Complete Voltage Range 5.1 to 200 Volts
* High peak reverse power dissipation
* High reliability
* Low leakage current
* Pb / RoHS Free

MECHANICAL DATA :

* Case : DO-15 Molded plastic
* 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
* Weight : 0.4 gram

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

Rating	Symbol	Value	Unit
DC Power Dissipation at T_L = 75 °C (Note1)	P_D	5.0	W
Maximum Forward Voltage at I_F = 1 A	V_F	1.2	V
Junction Temperature Range	T_J	- 65 to + 200	°C
Storage Temperature Range	Ts	- 65 to + 200	°C
Typical thermal resistance Junction to Case	RθJC	8	°C/W
Typical thermal resistance Junction to Ambeint	RθJA	85	°C/W

Note :

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

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type No.	Zener Voltage				Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	V_Z (1) (V) @ I_{ZT}			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}
	Min.	Nom.	Max.	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1N5338B	4.8	5.1	5.4	240	1.5	400	1.0	1.0	1.0	930
1N5339B	5.3	5.6	5.9	220	1.0	400	1.0	1.0	2.0	865
1N5340B	5.7	6.0	6.3	200	1.0	300	1.0	1.0	3.0	790
1N5341B	5.9	6.2	6.5	200	1.0	200	1.0	1.0	3.0	765
1N5342B	6.5	6.8	7.1	175	1.0	200	1.0	10	5.2	700
1N5343B	7.1	7.5	7.9	175	1.5	200	1.0	10	5.7	630
1N5344B	7.8	8.2	8.6	150	1.5	200	1.0	10	6.2	580
1N5345B	8.3	8.7	9.1	150	2.0	200	1.0	10	6.6	545
1N5346B	8.6	9.1	9.6	150	2.0	150	1.0	7.5	6.9	520
1N5347B	9.5	10	10.5	125	2.0	125	1.0	5.0	7.6	475
1N5348B	10.5	11	11.6	125	2.5	125	1.0	5.0	8.4	430
1N5349B	11.4	12	12.6	100	2.5	125	1.0	2.0	9.1	395
1N5350B	12.4	13	13.7	100	2.5	100	1.0	1.0	9.9	365
1N5351B	13.3	14	14.7	100	2.5	75	1.0	1.0	10.6	340
1N5352B	14.3	15	15.8	75	2.5	75	1.0	1.0	11.5	315
1N5353B	15.2	16	16.8	75	2.5	75	1.0	1.0	12.2	295
1N5354B	16.2	17	17.9	70	2.5	75	1.0	0.5	12.9	280
1N5355B	17.1	18	18.9	65	2.5	75	1.0	0.5	13.7	265
1N5356B	18.1	19	20.0	65	3.0	75	1.0	0.5	14.4	250
1N5357B	19.0	20	21.0	65	3.0	75	1.0	0.5	15.2	237
1N5358B	20.9	22	23.1	50	3.5	75	1.0	0.5	16.7	216
1N5359B	22.8	24	25.2	50	3.5	100	1.0	0.5	18.2	198
1N5360B	23.8	25	26.3	50	4.0	110	1.0	0.5	19.0	190
1N5361B	25.7	27	28.4	50	5.0	120	1.0	0.5	20.6	176
1N5362B	26.6	28	29.4	50	6.0	130	1.0	0.5	21.2	170
1N5363B	28.5	30	31.5	40	8.0	140	1.0	0.5	22.8	158
1N5364B	31.4	33	34.7	40	10	150	1.0	0.5	25.1	144
1N5365B	34.2	36	37.8	30	11	160	1.0	0.5	27.4	132
1N5366B	37.1	39	41.0	30	14	170	1.0	0.5	29.7	122
1N5367B	40.9	43	45.2	30	20	190	1.0	0.5	32.7	110
1N5368B	44.7	47	49.4	25	25	210	1.0	0.5	35.8	100
1N5369B	48.5	51	53.6	25	27	230	1.0	0.5	38.8	93.0
1N5370B	53.2	56	58.8	20	35	280	1.0	0.5	42.6	86.0
1N5371B	57.0	60	63.0	20	40	350	1.0	0.5	45.5	79.0
1N5372B	58.9	62	65.1	20	42	400	1.0	0.5	47.1	76.0
1N5373B	64.6	68	71.4	20	44	500	1.0	0.5	51.7	70.0
1N5374B	71.3	75	78.8	20	45	620	1.0	0.5	56.0	63.0
1N5375B	77.9	82	86.1	15	65	720	1.0	0.5	62.2	58.0
1N5376B	82.7	87	91.4	15	75	760	1.0	0.5	66.0	54.5
1N5377B	86.5	91	95.6	15	75	760	1.0	0.5	69.2	52.5
1N5378B	95.0	100	105.0	12	90	800	1.0	0.5	76.0	47.5
1N5379B	104.5	110	115.5	12	125	1000	1.0	0.5	83.6	43.0
1N5380B	114.0	120	126.0	10	170	1150	1.0	0.5	91.2	39.5
1N5381B	123.5	130	136.5	10	190	1250	1.0	0.5	98.8	36.6
1N5382B	133.0	140	147.0	8.0	230	1500	1.0	0.5	106	34.0
1N5383B	142.5	150	157.5	8.0	330	1500	1.0	0.5	114	31.6
1N5384B	152.0	160	168.0	8.0	350	1650	1.0	0.5	122	29.4
1N5385B	161.5	170	178.5	8.0	380	1750	1.0	0.5	129	28.0
1N5386B	171.0	180	189.0	5.0	430	1750	1.0	0.5	137	26.4
1N5387B	180.5	190	199.5	5.0	450	1850	1.0	0.5	144	25.0
1N5388B	190.0	200	210.0	5.0	480	1850	1.0	0.5	152	23.6

Note : (1) Suffix " B " indicates ± 5% tolerance, suffix " A " indicates ± 10% tolerance.

RATING AND CHARACTERISTIC CURVES (1N5338B - 1N5388B)

Fig. 1 POWER TEMPERATURE DERATING CURVE

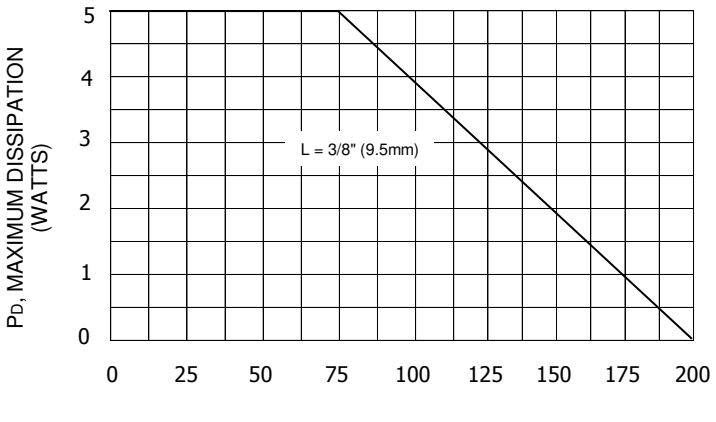


Fig. 2 TYPICAL THERMAL RESISTANCE

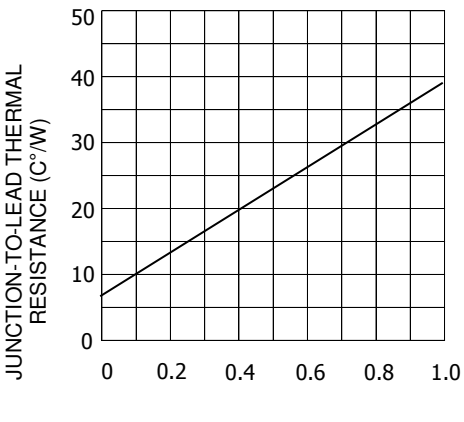


FIG. 3 - ZENER VOLTAGE VS. ZENER CURRENT
VZ = 3.3 thru 10 VOLTS

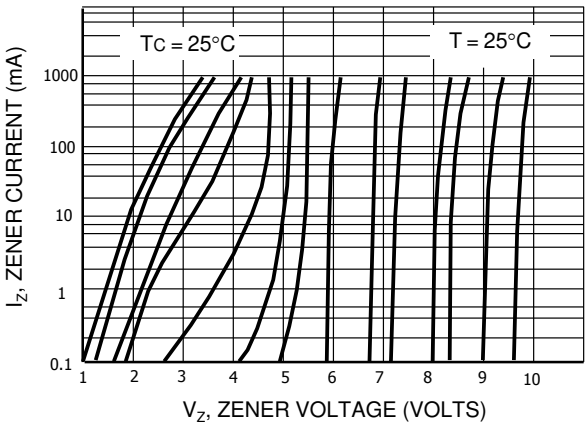


FIG. 4 - ZENER VOLTAGE VS. ZENER CURRENT
VZ = 11 thru 75 VOLTS

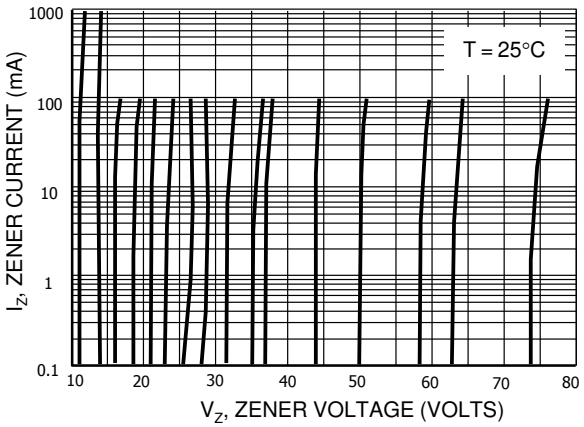
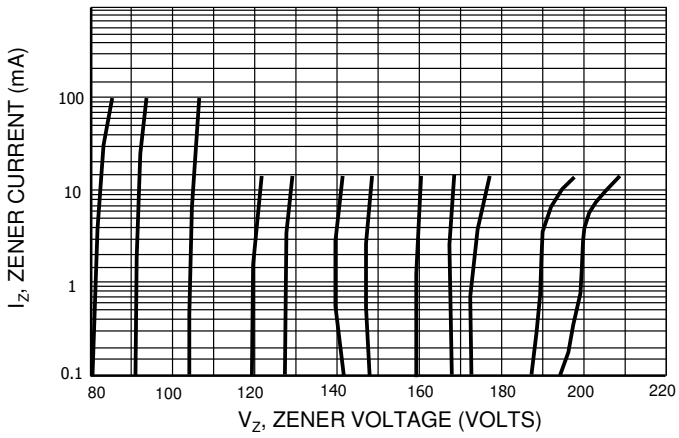


FIG. 5 - ZENER VOLTAGE VS. ZENER CURRENT
VZ = 82 thru 200 VOLTS



RATING AND CHARACTERISTIC CURVES (1N5338B - 1N5388B)

Fig 6. Typical Thermal Response L, Lead Length = 3/8 Inch

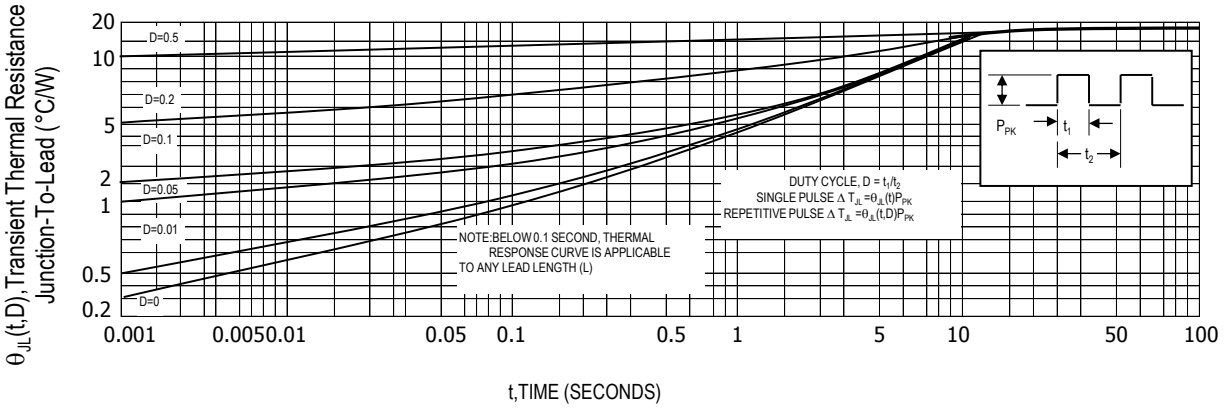


Fig.7 Maximum Non-Repetitive Surg Current versus Nominal Zener Voltage

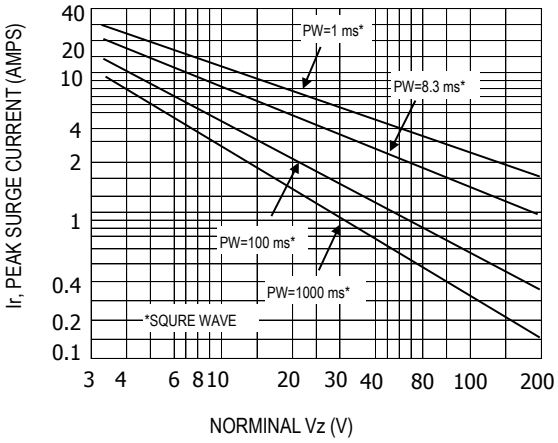


Fig. 8 Peak Surg Current versus Pulse Width

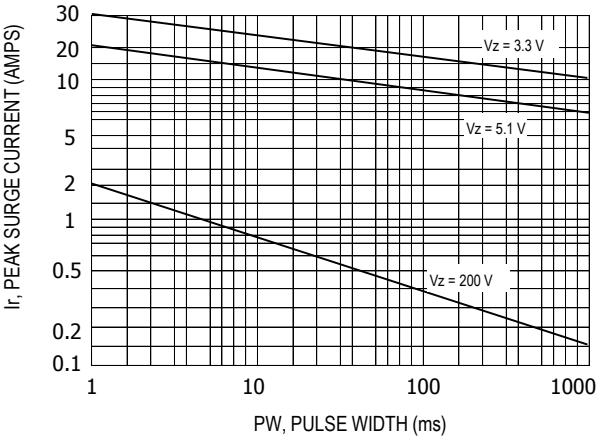


Fig.9 Temperature Coefficient-Range for Units 3 to 10 Volts

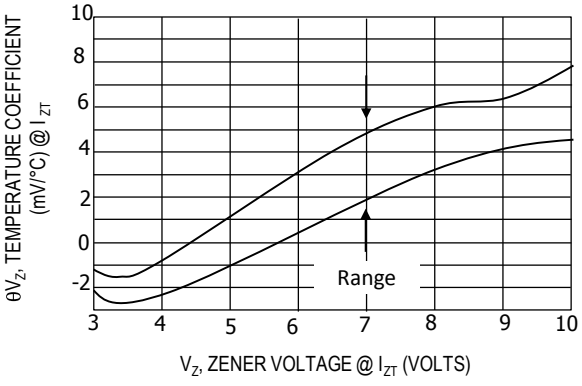


Fig.10 Temperature Coefficient-Range for Units 10 to 220 Volts

