

# 1N5338C - 1N5388C

## 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

### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

Rating	Symbol	Value	Unit
DC Power Dissipation at $T_L = 75\text{ °C}$ (Note1)	$P_D$	5.0	W
Maximum Forward Voltage at $I_F = 1\text{ A}$	$V_F$	1.2	V
Junction Temperature Range	$T_J$	- 65 to + 200	°C
Storage Temperature Range	$T_{STG}$	- 65 to + 200	°C

#### Notes :

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

Fig. 1 POWER TEMPERATURE DERATING CURVE

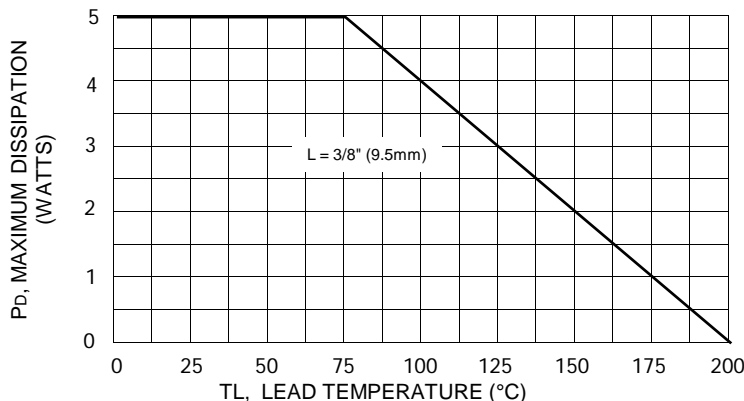
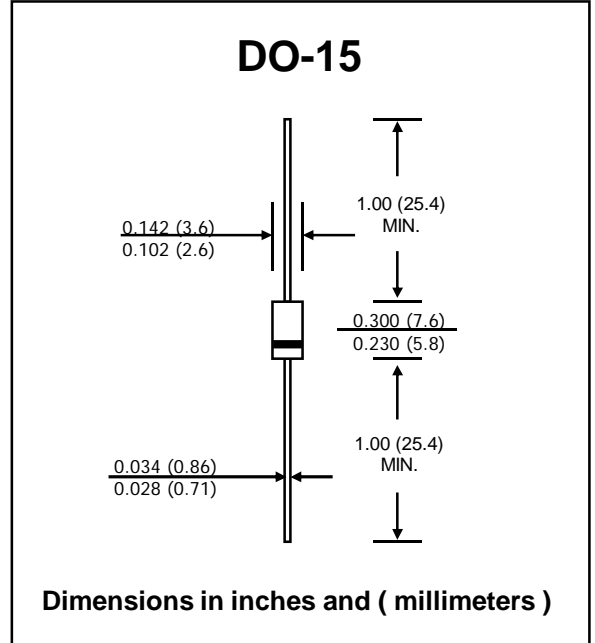
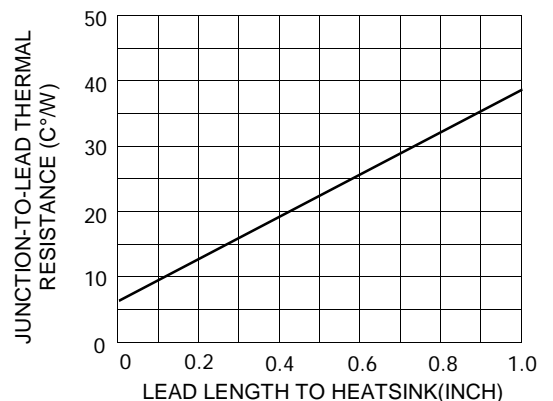


Fig. 2 TYPICAL THERMAL RESISTANCE





**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) @ $I_{ZT}$			$Z_{ZT}$ @ $I_{ZT}$	$Z_{ZK}$ @ $I_{ZK}$	$I_{ZK}$	$I_R$ @ $V_R$		$I_{ZM}$	
	Min.	Nom.	Max.	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu$ A)	(V)	(mA)
1N5338C	5.0	5.1	5.2	240	1.5	400	1.0	1.0	1.0	930
1N5339C	5.5	5.6	5.7	220	1.0	400	1.0	1.0	2.0	865
1N5340C	5.9	6.0	6.1	200	1.0	300	1.0	1.0	3.0	790
1N5341C	6.1	6.2	6.3	200	1.0	200	1.0	1.0	3.0	765
1N5342C	6.7	6.8	6.9	175	1.0	200	1.0	10	5.2	700
1N5343C	7.4	7.5	7.7	175	1.5	200	1.0	10	5.7	630
1N5344C	8.0	8.2	8.4	150	1.5	200	1.0	10	6.2	580
1N5345C	8.5	8.7	8.9	150	2.0	200	1.0	10	6.6	545
1N5346C	8.9	9.1	9.3	150	2.0	150	1.0	7.5	6.9	520
1N5347C	9.8	10	10.2	125	2.0	125	1.0	5.0	7.6	475
1N5348C	10.8	11	11.2	125	2.5	125	1.0	5.0	8.4	430
1N5349C	11.8	12	12.2	100	2.5	125	1.0	2.0	9.1	395
1N5350C	12.7	13	13.3	100	2.5	100	1.0	1.0	9.9	365
1N5351C	13.7	14	14.3	100	2.5	75	1.0	1.0	10.6	340
1N5352C	14.7	15	15.3	75	2.5	75	1.0	1.0	11.5	315
1N5353C	15.7	16	16.3	75	2.5	75	1.0	1.0	12.2	295
1N5354C	16.7	17	17.3	70	2.5	75	1.0	0.5	12.9	280
1N5355C	17.6	18	18.4	65	2.5	75	1.0	0.5	13.7	265
1N5356C	18.6	19	19.4	65	3.0	75	1.0	0.5	14.4	250
1N5357C	19.6	20	20.4	65	3.0	75	1.0	0.5	15.2	237
1N5358C	21.6	22	22.4	50	3.5	75	1.0	0.5	16.7	216
1N5359C	23.5	24	24.5	50	3.5	100	1.0	0.5	18.2	198
1N5360C	24.5	25	25.5	50	4.0	110	1.0	0.5	19.0	190
1N5361C	26.5	27	27.5	50	5.0	120	1.0	0.5	20.6	176
1N5362C	27.4	28	28.6	50	6.0	130	1.0	0.5	21.2	170
1N5363C	29.4	30	30.6	40	8.0	140	1.0	0.5	22.8	158
1N5364C	32.3	33	33.7	40	10	150	1.0	0.5	25.1	144
1N5365C	35.3	36	36.7	30	11	160	1.0	0.5	27.4	132
1N5366C	38.2	39	39.8	30	14	170	1.0	0.5	29.7	122
1N5367C	42.1	43	43.9	30	20	190	1.0	0.5	32.7	110
1N5368C	46.1	47	47.9	25	25	210	1.0	0.5	35.8	100
1N5369C	50.0	51	52.0	25	27	230	1.0	0.5	38.8	93.0
1N5370C	54.9	56	57.1	20	35	280	1.0	0.5	42.6	86.0
1N5371C	58.8	60	61.2	20	40	350	1.0	0.5	45.5	79.0
1N5372C	60.8	62	63.2	20	42	400	1.0	0.5	47.1	76.0
1N5373C	66.6	68	69.4	20	44	500	1.0	0.5	51.7	70.0
1N5374C	73.5	75	76.5	20	45	620	1.0	0.5	56.0	63.0
1N5375C	80.4	82	83.6	15	65	720	1.0	0.5	62.2	58.0
1N5376C	85.3	87	88.7	15	75	760	1.0	0.5	66.0	54.5
1N5377C	89.2	91	92.8	15	75	760	1.0	0.5	69.2	52.5
1N5378C	98.0	100	102.0	12	90	800	1.0	0.5	76.0	47.5
1N5379C	107.8	110	112.2	12	125	1000	1.0	0.5	83.6	43.0
1N5380C	117.6	120	122.4	10	170	1150	1.0	0.5	91.2	39.5
1N5381C	127.4	130	132.6	10	190	1250	1.0	0.5	98.8	36.6
1N5382C	137.2	140	142.8	8.0	230	1500	1.0	0.5	106	34.0
1N5383C	147.0	150	153.0	8.0	330	1500	1.0	0.5	114	31.6
1N5384C	156.8	160	163.2	8.0	350	1650	1.0	0.5	122	29.4
1N5385C	166.6	170	173.4	8.0	380	1750	1.0	0.5	129	28.0
1N5386C	176.4	180	183.6	5.0	430	1750	1.0	0.5	137	26.4
1N5387C	186.2	190	193.8	5.0	450	1850	1.0	0.5	144	25.0
1N5388C	196.0	200	204.0	5.0	480	1850	1.0	0.5	152	23.6

Note : (1) Suffix " C " indicates  $\pm 2\%$  tolerance, suffix " B " indicates  $\pm 5\%$  tolerance and suffix " A " indicates  $\pm 10\%$  tolerance.

RATING AND CHARACTERISTIC CURVES ( 1N5338C - 1N5388C )

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

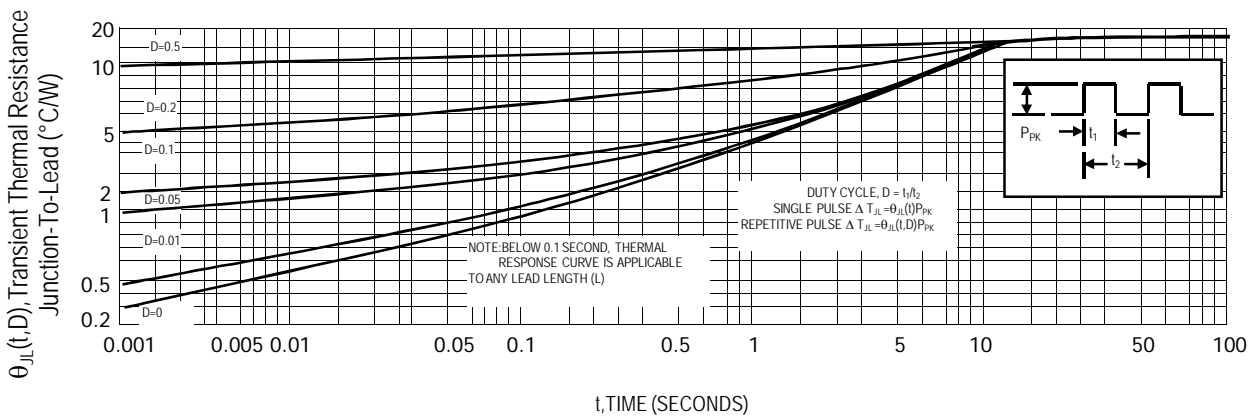


Fig.4 Maximum Non-Repetitive Surg Current versus Nominal Zener Voltage

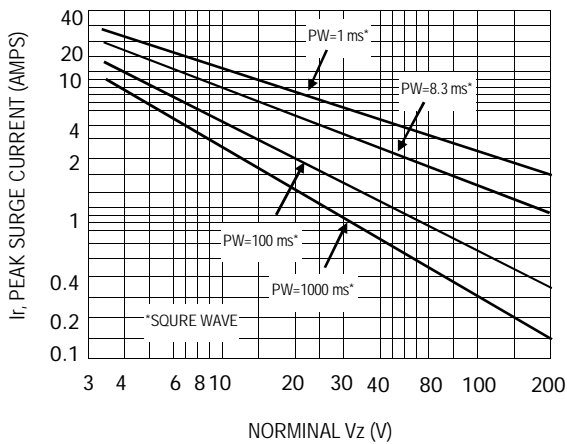


Fig. 5 Peak Surg Current versus Pulse Width

