



## SMA5913B-SMA5956B

### ZENER 1.5W SERIES

#### SMA5913B - SMA5956B

$V_Z$  : 3.3V - 200 Volts

$P_D$  : 1.5 Watt

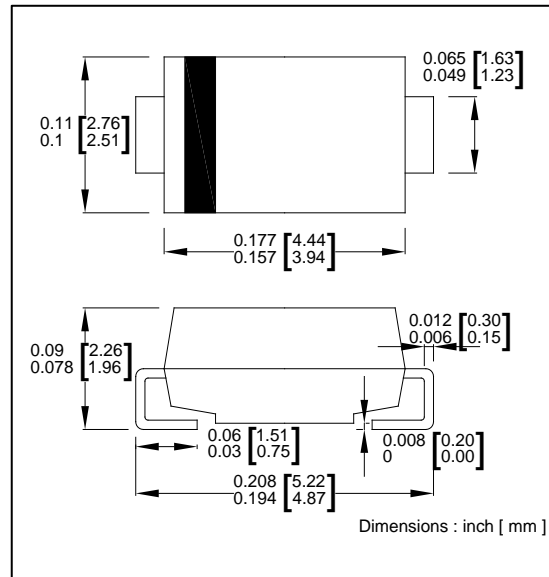
#### FEATURES

- 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: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead:Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any

#### SMA/DO214AC



### RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

Parameter	Symbol	Value	UNIT
DC Power Dissipation at $T_L = 50^\circ\text{C}$ (Note1)	$P_D$	1.5	Watts
Peak pulse current with a 10/1000 $\mu\text{s}$ waveform	$V_F$	1.2	Volts
Maximum Thermal Resistance Junction to Ambient	$R_{\theta JA}$	170	K/W
Junction Temperature Range	$T_J$	- 55 to + 175	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 55 to + 175	$^\circ\text{C}$

#### Note:

(1)  $T_L$  = 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.



## Ratings And Characteristics Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

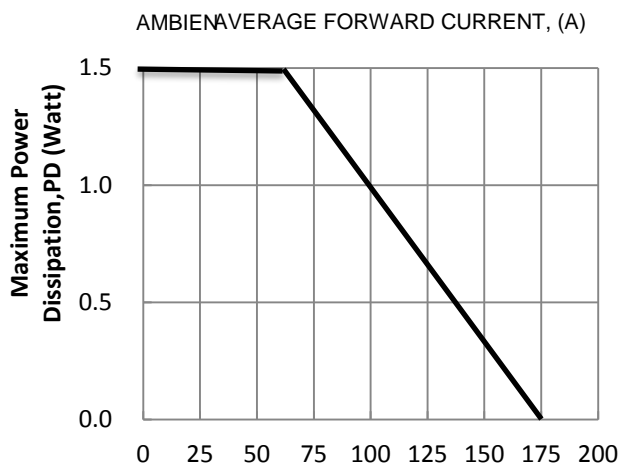


Fig. 1 - Power Temperature Derating Curve

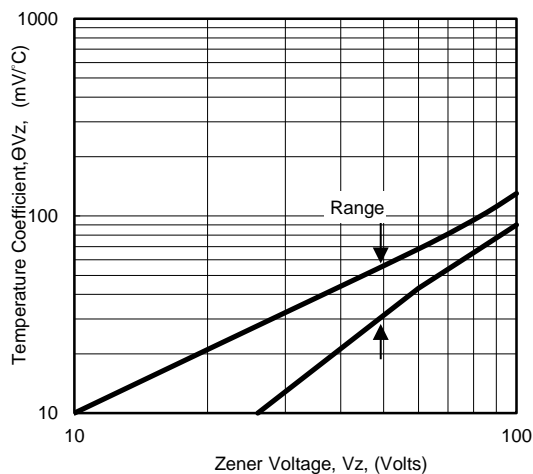


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

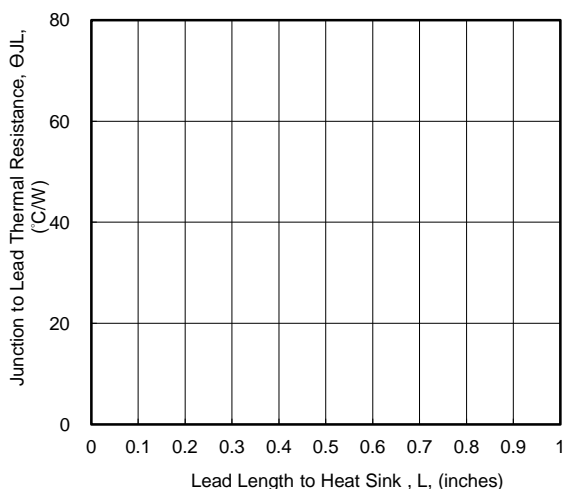


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

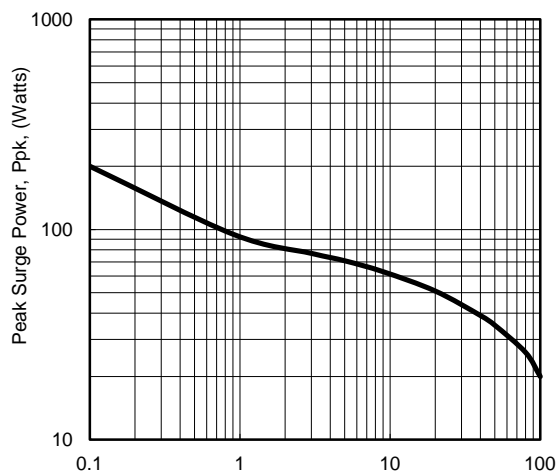


FIG.4 - Maximum Surge Power

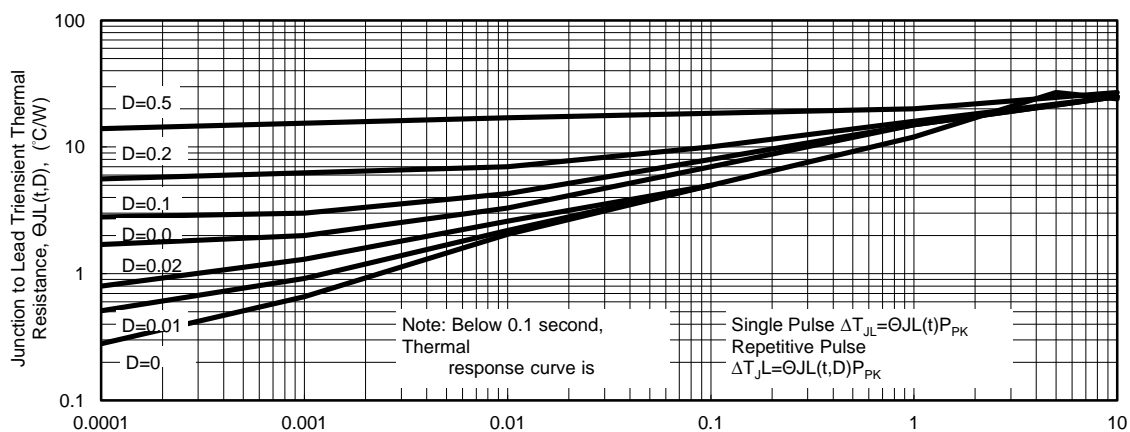


FIG.4 - Typical Thermal Response L, Lead Length=3/8inch



Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise noted)

ZENER 1.5W SERIES	DEVICE MARKING G CODE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		VZ @ IZT	IZT	ZZT @ IZT	ZZK @ IZK	IZK	IR @ VR		IZM
		(V)	(mA)	(Ω)	(Ω)	(mA)	(mA)	(V)	(mA)
SMA5913B	913B	3.3	113.6	10.0	500	1.0	50	1.0	455
SMA5914B	914B	3.6	104.2	9.0	500	1.0	35.5	1.0	417
SMA5915B	915B	3.9	96.1	7.5	500	1.0	12.5	1.0	385
SMA5916B	916B	4.3	87.2	6.0	500	1.0	2.5	1.0	349
SMA5917B	917B	4.7	79.8	5.0	500	1.0	2.5	1.5	319
SMA5918B	918B	5.1	73.5	4.0	350	1.0	2.5	2.0	294
SMA5919B	919B	5.6	66.9	2.0	250	1.0	2.5	3.0	268
SMA5920B	920B	6.2	60.5	2.0	200	1.0	5.0	4.0	241
SMA5921B	921B	6.8	55.1	2.5	200	1.0	5.0	5.2	440
SMA5922B	922B	7.5	50.0	3.0	400	0.5	5.0	6.0	400
SMA5923B	923B	8.2	45.7	3.5	400	0.5	5.0	6.5	364
SMA5924B	924B	9.1	41.2	4.0	500	0.5	5.0	7.0	328
SMA5925B	925B	10	37.5	4.5	500	0.25	5.0	8.0	300
SMA5926B	926B	11	34.1	5.5	550	0.25	5.0	8.4	272
SMA5927B	927B	12	31.2	6.5	550	0.25	1.0	9.1	250
SMA5928B	928B	13	28.8	7	550	0.25	1.0	9.9	230
SMA5929B	929B	15	25.0	9	600	0.25	1.0	11.4	200
SMA5930B	930B	16	23.4	10	600	0.25	1.0	12.2	186
SMA5931B	931B	18	20.8	12	650	0.25	1.0	13.7	166
SMA5932B	932B	20	18.7	14	650	0.25	1.0	15.2	150
SMA5933B	933B	22	17.0	18	650	0.25	1.0	16.7	136
SMA5934B	934B	24	15.6	19	700	0.25	1.0	18.2	124
SMA5935B	935B	27	13.9	23	700	0.25	1.0	20.6	110
SMA5936B	936B	30	12.5	26	750	0.25	1.0	22.8	100
SMA5937B	937B	33	11.4	33	800	0.25	1.0	25.1	90
SMA5938B	938B	36	10.4	38	850	0.25	1.0	27.4	82
SMA5939B	939B	39	9.6	45	900	0.25	1.0	29.7	76
SMA5940B	940B	43	8.7	53	950	0.25	1.0	32.7	68
SMA5941B	941B	47	8.0	67	1000	0.25	1.0	35.8	62
SMA5942B	942B	51	7.3	70	1100	0.25	1.0	38.8	58
SMA5943B	943B	56	6.7	86	1300	0.25	1.0	42.6	52
SMA5944B	944B	62	6.0	100	1500	0.25	1.0	47.1	48
SMA5945B	945B	68	5.5	120	1700	0.25	1.0	51.7	44
SMA5946B	946B	75	5.0	140	2000	0.25	1.0	56.0	40
SMA5947B	947B	82	4.6	160	2500	0.25	1.0	62.2	36
SMA5948B	948B	91	4.1	200	3000	0.25	1.0	69.2	32
SMA5949B	949B	100	3.7	250	3100	0.25	1.0	76.0	30
SMA5950B	950B	110	3.4	300	4000	0.25	1.0	83.6	13
SMA5951B	951B	120	3.1	380	4500	0.25	1.0	91.2	12
SMA5952B	952B	130	2.9	450	5000	0.25	1.0	98.8	11
SMA5953B	953B	150	2.5	600	6000	0.25	1.0	114	10
SMA5954B	954B	160	2.3	700	6500	0.25	1.0	121.6	9
SMA5955B	955B	180	2.1	900	7000	0.25	1.0	136.8	8
SMA5956B	956B	200	1.9	1900	9990	0.25	1.0	152	7

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 IZT per JEDEC Method