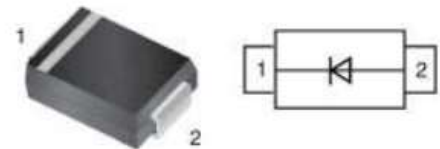


Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating

Mechanical Data

- **Case:** JEDEC DO-214AC(SMA)molded plastic
Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:**
High temperature soldering guaranteed:
260 °C/10 sec. at terminals



Absolute Maximum Ratings

Ratings at 25 ° ambient temperature unless otherwise specified.

Parameter	Symbol	Value	UNIT
DC power dissipation at $T_L = 50\text{ °C}^{(1)}$	P_D	1.5	W
Maximum forward voltage at $I_F = 200\text{ mA}$	V_F	1.5	V
Junction temperature range	T_J	- 55 to + 150	°C
Storage temperature range	T_{STG}	- 55 to + 150	°C

Note:

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



Surface Mount Silicon Zener Diodes in DO-214AC/SMA

1SMA5913B thru 1SMA5956B

Typical Characteristics

(T_{amb} = 25 °C unless otherwise specified)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	V _Z @ I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R		I _{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(BA)	(V)	(mA)
1SMA5913B	3.3	113.6	10.0	500	1.00	100.0	1.0	454
1SMA5914B	3.6	104.2	9.0	500	1.00	75.0	1.0	416
1SMA5915B	3.9	96.1	7.5	500	1.00	25.0	1.0	384
1SMA5916B	4.3	87.2	6.0	500	1.00	5.0	1.0	348
1SMA5917B	4.7	79.8	5.0	500	1.00	5.0	1.5	319
1SMA5918B	5.1	73.5	4.0	350	1.00	5.0	2.0	294
1SMA5919B	5.6	66.9	2.0	250	1.00	5.0	3.0	267
1SMA5920B	6.2	60.5	2.0	200	1.00	2.5	4.0	240
1SMA5921B	6.8	55.1	2.5	200	1.00	2.5	5.2	220
1SMA5922B	7.5	50.0	3.0	400	0.50	2.5	6.0	200
1SMA5923B	8.2	45.7	3.5	400	0.50	2.5	6.5	182
1SMA5924B	9.1	41.2	4.0	500	0.50	2.5	7.0	164
1SMA5925B	10.0	37.5	4.5	500	0.25	2.5	8.0	150
1SMA5926B	11.0	34.1	5.5	550	0.25	0.5	8.4	136
1SMA5927B	12.0	31.2	6.5	550	0.25	0.5	9.1	125
1SMA5928B	13.0	28.8	7.0	550	0.25	0.5	9.9	115
1SMA5929B	15.0	25.0	9.0	600	0.25	0.5	11.4	100
1SMA5930B	16.0	23.4	10.0	600	0.25	0.5	12.2	93
1SMA5931B	18.0	20.8	12.0	650	0.25	0.5	13.7	83
1SMA5932B	20.0	18.7	14.0	650	0.25	0.5	15.2	75
1SMA5933B	22.0	17.0	17.5	650	0.25	0.5	16.7	68
1SMA5934B	24.0	15.6	19.0	700	0.25	0.5	18.2	62
1SMA5935B	27.0	13.9	23.0	700	0.25	0.5	20.6	55
1SMA5936B	30.0	12.5	26.0	750	0.25	0.5	22.8	50
1SMA5937B	33.0	11.4	33.0	800	0.25	0.5	25.1	45
1SMA5938B	36.0	10.4	38.0	850	0.25	0.5	27.4	41
1SMA5939B	39.0	9.6	45.0	900	0.25	0.5	29.7	38
1SMA5940B	43.0	8.7	53.0	950	0.25	0.5	32.7	34
1SMA5941B	47.0	8.0	67.0	1000	0.25	0.5	35.8	31
1SMA5942B	51.0	7.3	70.0	1100	0.25	0.5	38.8	29
1SMA5943B	56.0	6.7	86.0	1300	0.25	0.5	42.6	26
1SMA5944B	62.0	6.0	100.0	1500	0.25	0.5	47.1	24
1SMA5945B	68.0	5.5	120.0	1700	0.25	0.5	51.7	22
1SMA5946B	75.0	5.0	140.0	2000	0.25	0.5	56.0	20
1SMA5947B	82.0	4.6	160.0	2500	0.25	0.5	62.2	18
1SMA5948B	91.0	4.1	200.0	3000	0.25	0.5	69.2	16
1SMA5949B	100.0	3.7	250.0	3100	0.25	0.5	76.0	15
1SMA5950B	110.0	3.4	300.0	4000	0.25	0.5	83.6	13
1SMA5951B	120.0	3.1	380.0	4500	0.25	0.5	91.2	12
1SMA5952B	130.0	2.9	450.0	5000	0.25	0.5	98.8	11
1SMA5953B	150.0	2.5	600.0	6000	0.25	0.5	114.0	10
1SMA5954B	160.0	2.3	700.0	6500	0.25	0.5	121.6	9
1SMA5955B	180.0	2.1	900.0	7000	0.25	0.5	136.8	8
1SMA5956B	200.0	1.9	1200.0	8000	0.25	0.5	152.0	7

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per method.

Typical Characteristics

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

Fig. 1 - Power Temperature Derating Curve

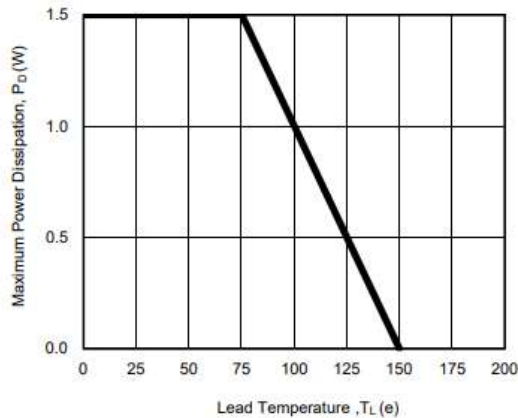


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

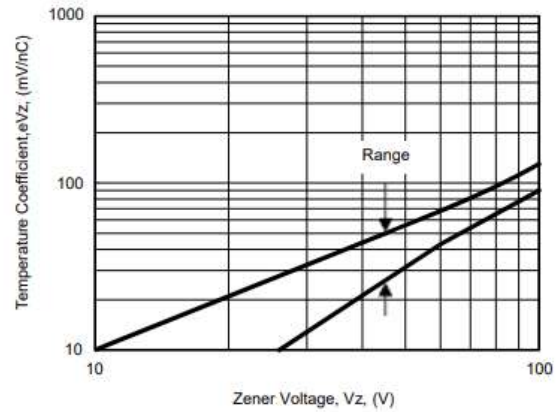


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

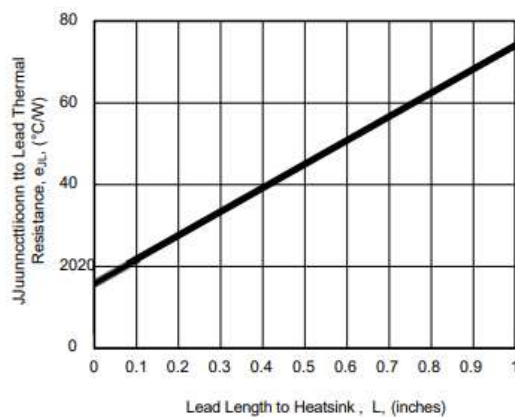


Fig. 4 - Maximum Surge Power

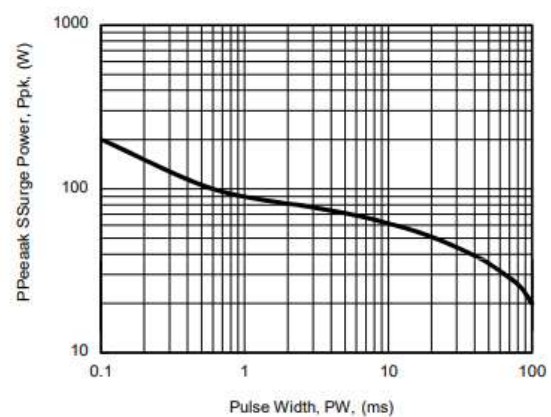
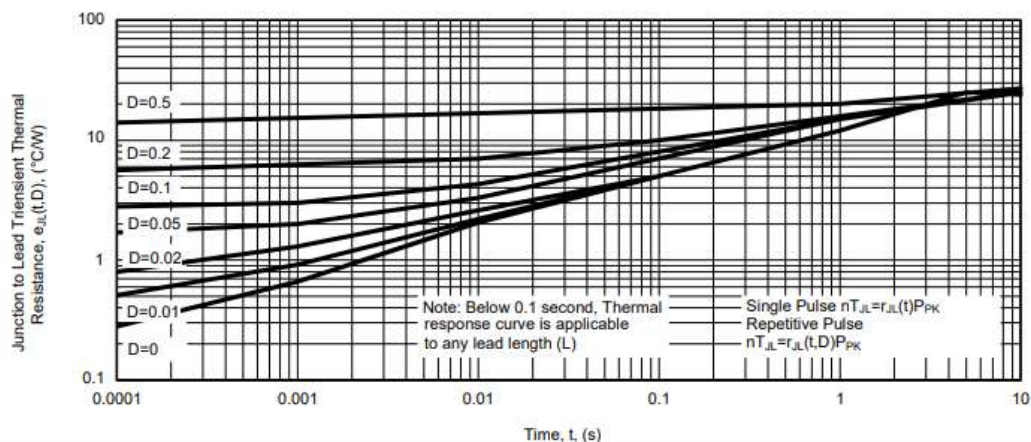
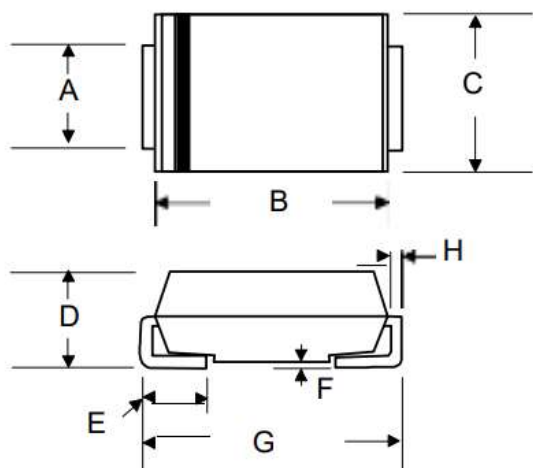


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

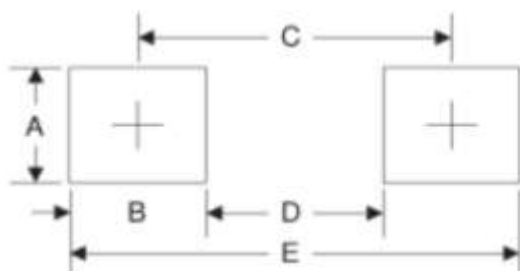


Package Dimensions



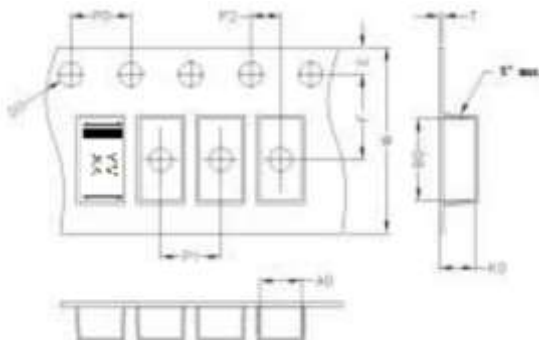
Symbol	Dimensions in millimeters	
	Min	Max
A	1.30	1.70
B	3.90	4.50
C	2.40	2.80
D	2.00	2.50
E	0.76	1.52
F	0.10	0.20
G	4.80	5.30
H	0.15	0.31

PAD Dimensions



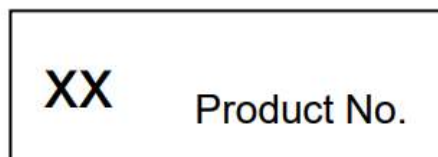
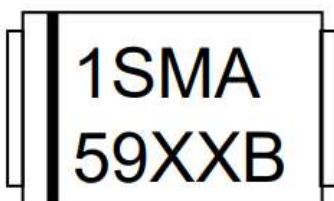
Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.90	0.154
D	2.41	0.095
E	5.45	0.215

Packing Information



A0	B0	K0	D0	E	F
2.80	5.30	2.36	1.55	1.75	5.50
P0	P1	P2	T	W	Tolerance
4.0	4.0	2.0	0.25	12	0.1

Marking



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
1SMA59xxB	DO-214AC/SMA	Tape and reel	5000pcs / reel	EIA STD RS-481