

1.5SMA59xxA

Surface Mount Zener Diodes

Vz Range: 3.3 to 200V Power Dissipation:1.5W

Features

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



Package:
DO-214AC (SMA)

Mechanical Data

- Case: DO-214AC Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Mounting position: Any

Maximum Rating (T_A=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
DC Power Dissipation at T _L =75°C ¹	P _D	1.5	W
Maximum Forward Voltage at I _F =200mA	V _F	1.2	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

Electrical Characteristics (T_A=25°C unless otherwise specified)

Part Number	Device Marking Code	Zener Voltage @I _T			I _{ZT} (mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current I _{ZM} (mA)
		Nonminal V _Z (V)	Min V _Z (V)	Max V _Z (V)		Z _{ZT} MAX. ^(Ω) @I _{ZT}	Z _{ZK} MAX. ^(Ω) @I _{ZK}	I _{ZK} (mA)	I _R (uA)@ V _R	V _R (V)	
1.5SMA5913A	913A	3.3	3.14	3.47	113.6	10	500	1	100	1	274
1.5SMA5914A	914A	3.6	3.42	3.78	104.2	9	500	1	100	1	251
1.5SMA5915A	915A	3.9	3.71	4.1	96.1	7.5	500	1	50	1	232
1.5SMA5916A	916A	4.3	4.09	4.52	87.2	6	500	1	10	1	210
1.5SMA5917A	917A	4.7	4.47	4.94	79.8	5	500	1	10	1.5	192
1.5SMA5918A	918A	5.1	4.85	5.36	73.5	4	350	1	10	2	177
1.5SMA5919A	919A	5.6	5.32	5.88	66.9	2	250	1	10	3	161
1.5SMA5920A	920A	6.2	5.89	6.51	60.5	2	200	1	10	4	146
1.5SMA5921A	921A	6.8	6.46	7.14	55.1	2.5	200	1	10	5.2	133
1.5SMA5922A	922A	7.5	7.13	7.88	50	3	400	0.5	10	6	121
1.5SMA5923A	923A	8.2	7.79	8.61	45.7	3.5	400	0.5	10	6.5	110
1.5SMA5924A	924A	9.1	8.65	9.56	41.2	4	500	0.5	10	7	100
1.5SMA5925A	925A	10	9.5	10.5	37.5	4.5	500	0.25	10	8	91
1.5SMA5926A	926A	11	10.45	11.55	34.1	5.5	550	0.25	0.5	8.4	83
1.5SMA5927A	927A	12	11.4	12.6	31.2	6.5	550	0.25	0.5	9.1	76
1.5SMA5928A	928A	13	12.35	13.65	28.8	7	550	0.25	0.5	9.9	69
1.5SMA5929A	929A	15	14.25	15.75	25	9	600	0.25	0.5	11.4	61
1.5SMA5930A	930A	16	15.2	16.8	23.4	10	600	0.25	0.5	12.2	57
1.5SMA5931A	931A	18	17.1	18.9	20.8	12	650	0.25	0.5	13.7	50
1.5SMA5932A	932A	20	19	21	18.7	14	650	0.25	0.5	15.2	45
1.5SMA5933A	933A	22	20.9	23.1	17	17.5	650	0.25	0.5	16.7	41
1.5SMA5934A	934A	24	22.8	25.2	15.6	19	700	0.25	0.5	18.2	38
1.5SMA5935A	935A	27	25.65	28.35	13.9	23	700	0.25	0.5	20.6	34
1.5SMA5936A	936A	30	28.5	31.5	12.5	26	750	0.25	0.5	22.8	30
1.5SMA5937A	937A	33	31.35	34.65	11.4	33	800	0.25	0.5	25.1	27
1.5SMA5938A	938A	36	34.2	37.8	10.4	38	850	0.25	0.5	27.4	25
1.5SMA5939A	939A	39	37.05	40.95	9.6	45	900	0.25	0.5	29.7	23
1.5SMA5940A	940A	43	40.85	45.15	8.7	53	950	0.25	0.5	32.7	22
1.5SMA5941A	941A	47	44.65	49.35	8	67	1000	0.25	0.5	35.8	19
1.5SMA5942A	942A	51	48.45	53.55	7.3	70	1100	0.25	0.5	38.8	18
1.5SMA5943A	943A	56	53.2	58.8	6.7	86	1300	0.25	0.5	42.6	16
1.5SMA5944A	944A	62	58.9	65.1	6	100	1500	0.25	0.5	47.1	14
1.5SMA5945A	945A	68	64.6	71.4	5.5	120	1700	0.25	0.5	51.7	13
1.5SMA5946A	946A	75	71.25	78.75	5	140	2000	0.25	0.5	56	12
1.5SMA5947A	947A	82	77.9	86.1	4.6	160	2500	0.25	0.5	62.2	11
1.5SMA5948A	948A	91	86.45	95.55	4.1	200	3000	0.25	0.5	69.2	10
1.5SMA5949A	949A	100	95	105	3.7	250	3100	0.25	0.5	76	9
1.5SMA5950A	950A	110	104.5	115.5	3.4	300	4000	0.25	0.5	83.6	8.6
1.5SMA5951A	951A	120	114	126	3.1	380	4500	0.25	0.5	91.2	7.8
1.5SMA5952A	952A	130	123.5	136.5	2.9	450	5000	0.25	0.5	98.8	7
1.5SMA5953A	953A	150	142.5	157.5	2.5	600	6000	0.25	0.5	114	6.4
1.5SMA5954A	954A	160	152	168	2.3	700	6500	0.25	0.5	121.6	5.8
1.5SMA5955A	955A	180	171	189	2.1	900	7000	0.25	0.5	136.8	5.2
1.5SMA5956A	956A	200	190	210	1.9	1200	8000	0.25	0.5	152	4.7

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

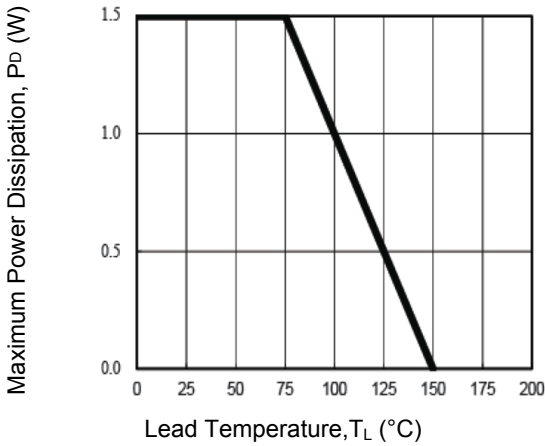


Figure 1. Power Temperature Derating Curve

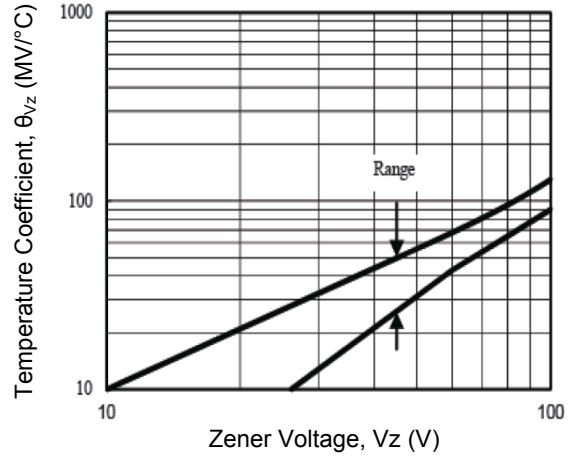


Figure 2. Temperature Coefficients v.s Zener Voltage

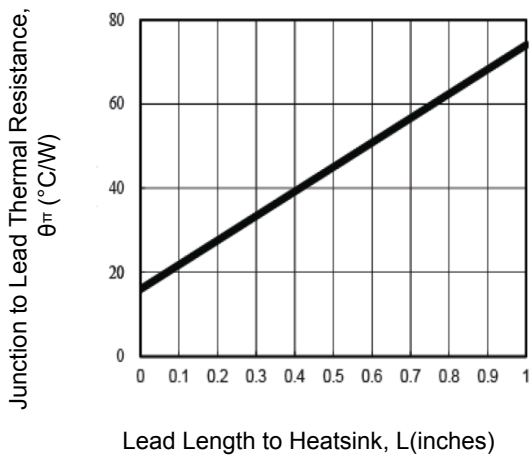


Figure 3. Typical Thermal Resistance v.s. Lead Length

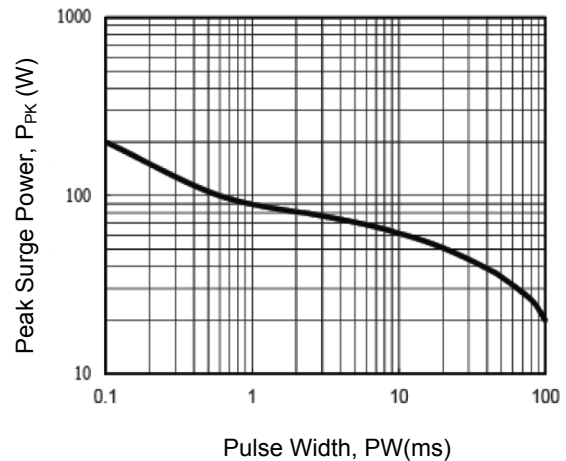


Figure 4. Maximum Surge Power

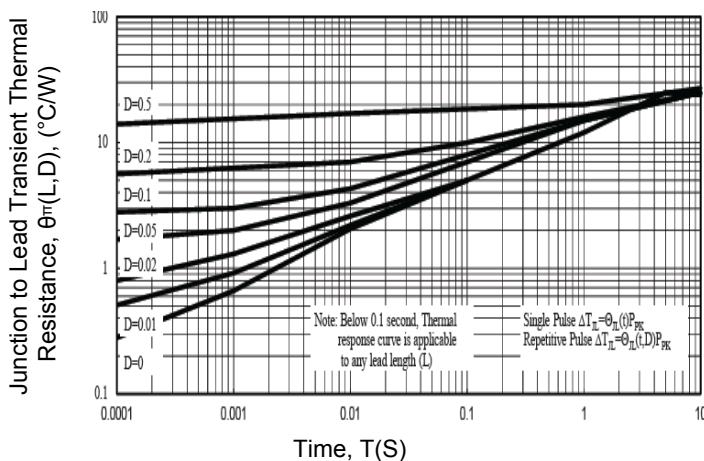
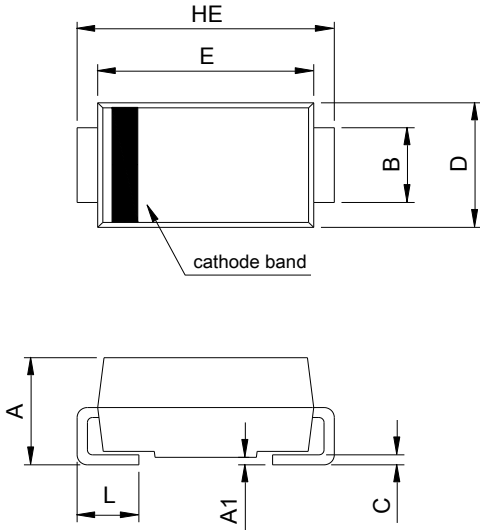


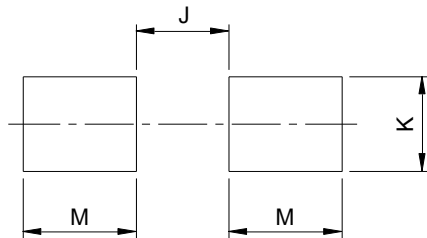
Figure 5. Typical Thermal Response L, Lead Length-3/8inch

Package Outline Dimensions SMA(DO-214AC)



SMA (DO-214AC)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.90	2.30	0.075	0.091
A1	0.00	0.20	0.000	0.008
B	1.25	1.65	0.049	0.065
C	0.15	0.31	0.006	0.012
D	2.35	2.90	0.093	0.114
E	3.99	4.60	0.157	0.181
HE	4.80	5.30	0.189	0.209
L	0.76	1.52	0.030	0.060

Recommended Pad Layout



Unit: inch(mm)

Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.20	-	0.087
K	1.72	-	0.068	-
M	2.00	-	0.079	-