

SMA59XXA SERIES

1.5W SURFACE MOUNT ZENER DIODE

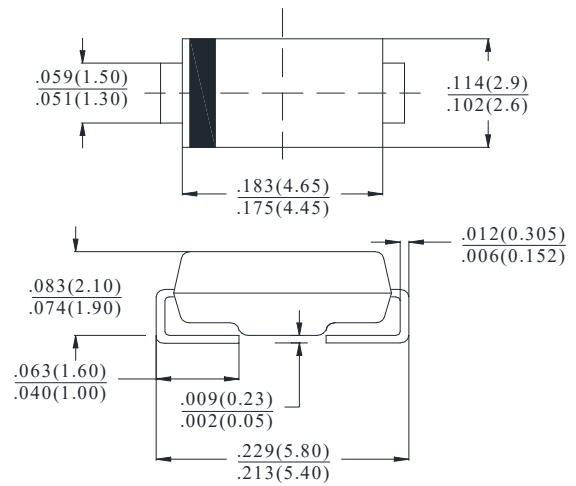
FEATURE

- 1.5W Power Dissipation
- Ideally Suited for Automatic Assembly
- 5.1V - 39V Nominal Zener Voltage Range
- Standard VZ Tolerance is $\pm 5\%$
- Easy pick and place
- High temperature soldering guaranteed:
260°C/10 seconds at terminals.

MECHANICAL DATA

- Case: SMA, Transfer Molded Epoxy
- Epoxy: UL94V-0 rate flame retardant
- Terminals: MIL-STD- 202E, Method 208 guaranteed
- Polarity Indicator: Cathode Band (Note: Bi-directional devices have no polarity indicator.)
- Mounting position: Any

SMA(DO-214AC)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise stated.

Single-phase, half-wave, 60HZ, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	SYM BOL	Value	units
DC power dissipation	P_d	1.5	W
Maximum instantaneous forward voltage@ IF=200mA	V_F	1.2	V
Storage Temperature	T_{STG}	-55 to +150	°C
Operating Junction Temperature	T_J	-55 to +150	°C

ELECTRICAL CHARACTERISTICS(TA=25°C unless otherwise noted)

Part Number	Nominal Zener Voltage @IT			IZT(mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	VZ AVE.(V)	VZ MIN.(V)	VZ MAX.(V)		ZZT MAX.(Ω) @IZT	ZZK MAX.(Ω) @IZK	IZK(mA)	IR(uA) @VR	VR(V)	
SMA5913A	3.3	3.14	3.47	113.6	10.0	500.0	1.0	100.0	1.0	274.0
SMA5914A	3.6	3.42	3.78	104.2	9.0	500.0	1.0	100.0	1.0	251.0
SMA5915A	3.9	3.71	4.1	96.1	7.5	500.0	1.0	50.0	1.0	232.0
SMA5916A	4.3	4.09	4.52	87.2	6.0	500.0	1.0	10.0	1.0	210.0
SMA5917A	4.7	4.47	4.94	79.8	5.0	500.0	1.0	10.0	1.5	192.0
SMA5918A	5.1	4.85	5.36	73.5	4.0	350.0	1.0	10.0	2.0	177.0
SMA5919A	5.6	5.32	5.88	66.9	2.0	250.0	1.0	10.0	3.0	161.0
SMA5920A	6.2	5.89	6.51	60.5	2.0	200.0	1.0	10.0	4.0	146.0
SMA5921A	6.8	6.46	7.14	55.1	2.5	200.0	1.0	10.0	5.2	133.0
SMA5922A	7.5	7.13	7.88	50	3.0	400.0	0.5	10.0	6.0	121.0

SMA5923A	8.2	7.79	8.61	45.7	3.5	400.0	0.5	10.0	6.5	110.0
SMA5924A	9.1	8.65	9.56	41.2	4.0	500.0	0.5	10.0	7.0	100.0
SMA5925A	10	9.5	10.5	37.5	4.5	500.0	0.3	10.0	8.0	91.0
SMA5926A	11	10.45	11.55	34.1	5.5	550.0	0.3	0.5	8.4	83.0
SMA5927A	12	11.4	12.6	31.2	6.5	550.0	0.3	0.5	9.1	76.0
SMA5928A	13	12.35	13.65	28.8	7.0	550.0	0.3	0.5	9.9	69.0
SMA5929A	15	14.25	15.75	25	9.0	600.0	0.3	0.5	11.4	61.0
SMA5930A	16	15.2	16.8	23.4	10.0	600.0	0.3	0.5	12.2	57.0
SMA5931A	18	17.1	18.9	20.8	12.0	650.0	0.3	0.5	13.7	50.0
SMA5932A	20	19	21	18.7	14.0	650.0	0.3	0.5	15.2	45.0
SMA5933A	22	20.9	23.1	17	17.5	650.0	0.3	0.5	16.7	41.0
SMA5934A	24	22.8	25.2	15.6	19.0	700.0	0.3	0.5	18.2	38.0
SMA5935A	27	25.65	28.35	13.9	23.0	700.0	0.3	0.5	20.6	34.0
SMA5936A	30	28.5	31.5	12.5	26.0	750.0	0.3	0.5	22.8	30.0
SMA5937A	33	31.35	34.65	11.4	33.0	800.0	0.3	0.5	25.1	27.0
SMA5938A	36	34.2	37.8	10.4	38.0	850.0	0.3	0.5	27.4	25.0
SMA5939A	39	37.05	40.95	9.6	45.0	900.0	0.3	0.5	29.7	23.0
SMA5940A	43	40.85	45.15	8.7	53.0	950.0	0.3	0.5	32.7	22.0
SMA5941A	47	44.65	49.35	8	67.0	1000.0	0.3	0.5	35.8	19.0
SMA5942A	51	48.45	53.55	7.3	70.0	1100.0	0.3	0.5	38.8	18.0
SMA5943A	56	53.2	58.8	6.7	86.0	1300.0	0.3	0.5	42.6	16.0
SMA5944A	62	58.9	65.1	6	100.0	1500.0	0.3	0.5	47.1	14.0
SMA5945A	68	64.6	71.4	5.5	120.0	1700.0	0.3	0.5	51.7	13.0
SMA5946A	75	71.25	78.75	5	140.0	2000.0	0.3	0.5	56.0	12.0
SMA5947A	82	77.9	86.1	4.6	160.0	2500.0	0.3	0.5	62.2	11.0
SMA5948A	91	86.45	95.55	4.1	200.0	3000.0	0.3	0.5	69.2	10.0
SMA5949A	100	95	105	3.7	250.0	3100.0	0.3	0.5	76.0	9.0
SMA5950A	110	104.5	115.5	3.4	300.0	4000.0	0.3	0.5	83.6	8.6
SMA5951A	120	114	126	3.1	380.0	4500.0	0.3	0.5	91.2	7.8
SMA5952A	130	123.5	136.5	2.9	450.0	5000.0	0.3	0.5	98.8	7.0
SMA5953A	150	142.5	157.5	2.5	600.0	6000.0	0.3	0.5	114.0	6.4
SMA5954A	160	152	168	2.3	700.0	6500.0	0.3	0.5	121.6	5.8
SMA5955A	180	171	189	2.1	900.0	7000.0	0.3	0.5	136.8	5.2
SMA5956A	200	190	210	1.9	1200.0	8000.0	0.3	0.5	152.0	4.7

RATING AND CHARACTERISTIC CURVES

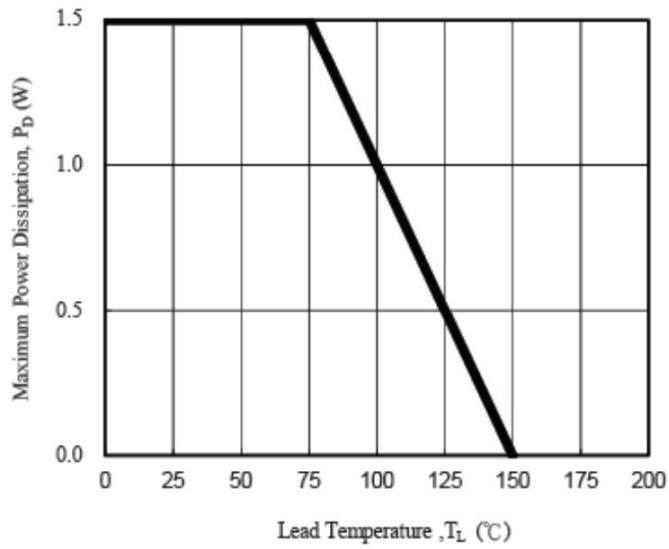


Fig. 1 - Power Temperature Derating Curve

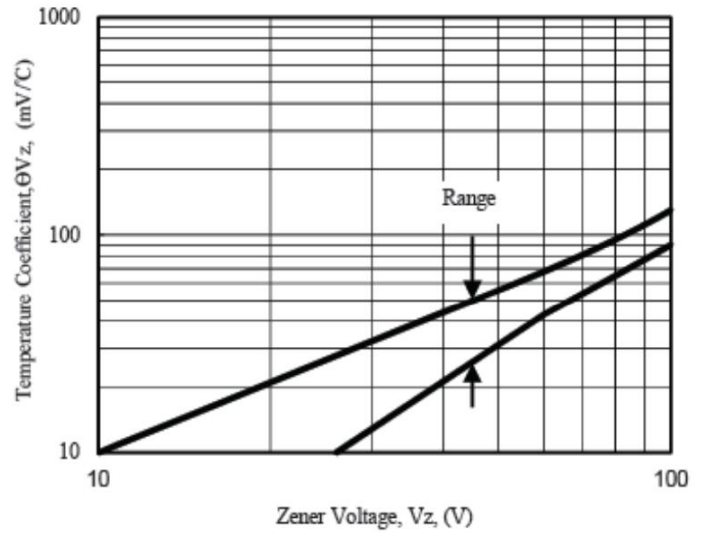


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

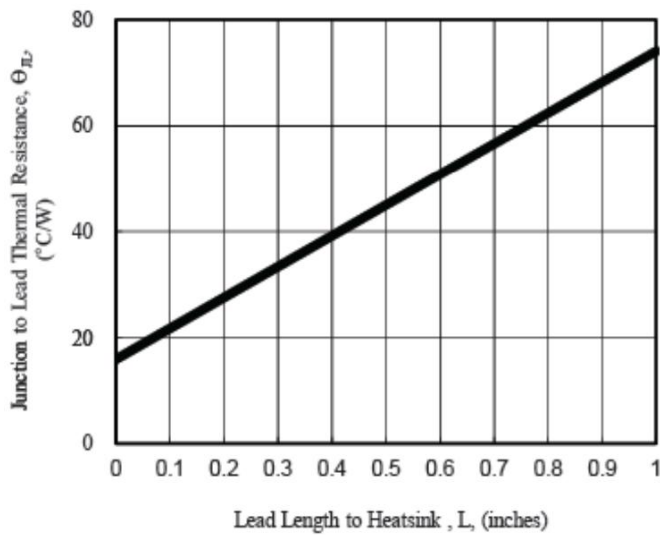


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

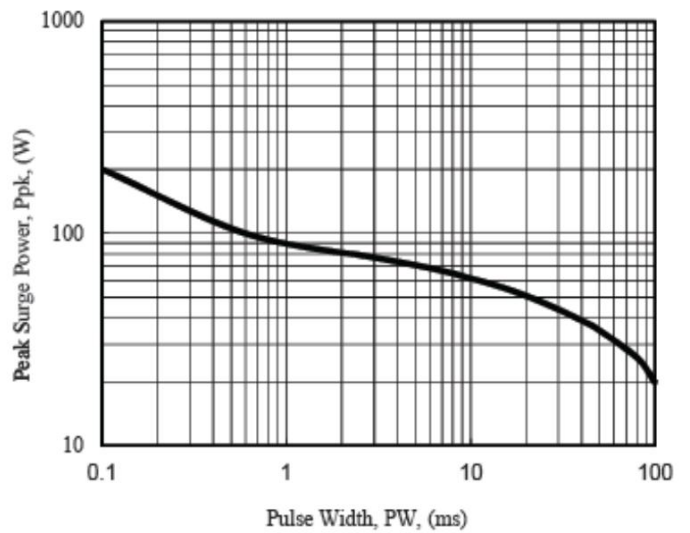


Fig. 4 - Maximum Surge Power

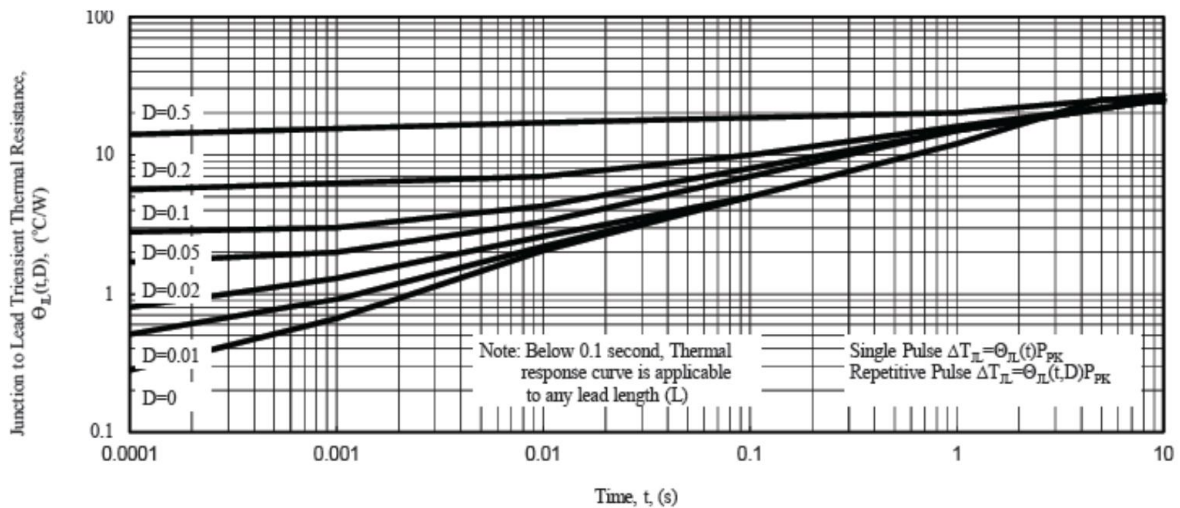
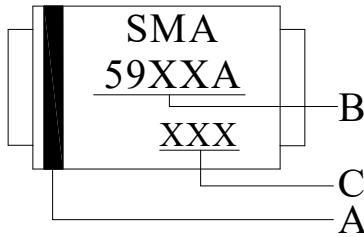


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

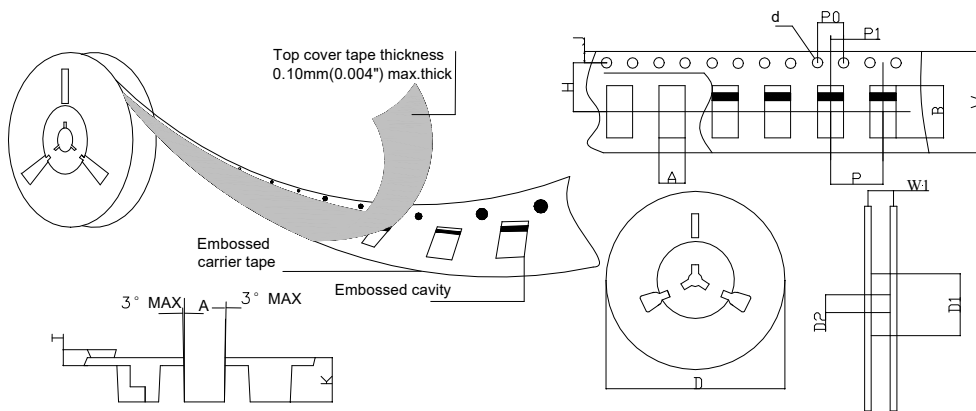
Marking and packaging illustration

1、Marking



SYMBOL	Explanation
A	Color Band Denotes Cathode
B	Product name
C	Date Code

2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	SMA (DO-214AC)	ITEM	SYM BOL	SMA (DO-214AC)
Carrier width	A	3.17(0.125)Max	Carrier depth	K	2.42(0.095)Typ
Carrier length	B	5.81(0.229)Max	Punch hole pitch	P	4.00(0.157)Typ
Sprocket hole	d	ø1.55(0.061)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	50.0(1.969)Min	Overall tape thickness	T	0.30(0.012)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	12.0(0.472)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	12.4(0.488)Min
Punch hole position	H	5.55(0.219)Typ			