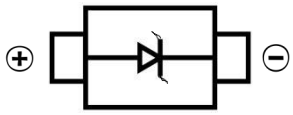
ZENER DIODES

FEATURES

- Glass passivated junction
- High reliability
- Voltage range 10V to 270V
- Fits onto 5 mm SMD footpads
- Wave and reflow solderable

SMA



MECHANICAL DATA

- Case: SMA(DO-214AC)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.065 grams (approximate)

Absolute Maximum Ratings T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	R_{thJA}<25K/W, T_{amb}=100°C		P_V	3	W
	R_{thJA}<100K/W, T_{amb}=50°C		P_V	1.25	W
Non repetitive peak surge power dissipation	t_p=100μs sq.pulse, T_j=25°C prior to surge		P_{ZSM}	600	W
Junction temperature			T_j	150	°C
Storage temperature range			T_{stg}	–65...+150	°C

Maximum Thermal Resistance T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction lead		R_{thJL}	25	K/W
Junction ambient	mounted on epoxy–glass hard tissue, Fig. 1a	R_{thJA}	150	K/W
	mounted on epoxy–glass hard tissue, Fig. 1b	R_{thJA}	125	K/W
	mounted on Al–oxid–ceramic (Al_2O_3), Fig. 1b	R_{thJA}	100	K/W

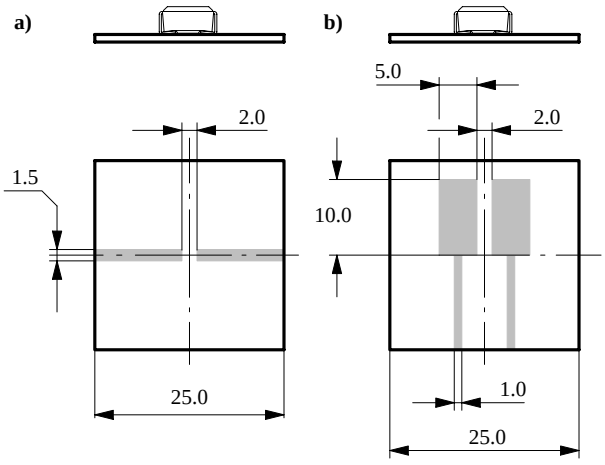


Figure 1. Boards for R_{thJA} definition (copper overlay 35μ)

Electrical Characteristics T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=0.5A		V_F			1.2	V

ZENER DIODES

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Type	Device marking code	Zener voltage range V_Z			Dynamic resistance			Temperature coefficient of zener voltage		Reverse leakage current I_R@V_R	
					r_{zj}@I_{ZT}		I_{ZT}	TK_{VZ}@I_{ZT}			
		V	V	V	Ω	Ω	m A	%/K	%/K	μ A	V
		Min.	Typ.	Max.	Typ.	Max.		Typ.	Max.	Max.	
BZG03C10	G10	9.4	10	10.6	2.0	4.0	50	0.05	0.09	10	7.5
BZG03C11	G11	10.4	11	11.6	4.0	7.0	50	0.05	0.10	4.0	8.2
BZG03C12	G12	11.4	12	12.7	4.0	7.0	50	0.05	0.10	3.0	9.1
BZG03C13	G13	12.4	13	14.1	5.0	10	50	0.05	0.10	2.0	10
BZG03C15	G15	13.8	15	15.6	5.0	10	50	0.05	0.10	1.0	11
BZG03C16	G16	15.3	16	17.1	6.0	15	25	0.06	0.11	1.0	12
BZG03C18	G18	16.8	18	19.1	6.0	15	25	0.06	0.11	1.0	13
BZG03C20	G20	18.8	20	21.2	6.0	15	25	0.06	0.11	1.0	15
BZG03C22	G22	20.8	22	23.3	6.0	15	25	0.06	0.11	1.0	16
BZG03C24	G24	22.8	24	25.6	7.0	15	25	0.06	0.11	1.0	18
BZG03C27	G27	25.1	27	28.9	7.0	15	25	0.06	0.11	1.0	20
BZG03C30	G30	28	30	32	8.0	15	25	0.06	0.11	1.0	22
BZG03C33	G33	31	33	35	8.0	15	25	0.06	0.11	1.0	24
BZG03C36	G36	34	36	38	21	40	10	0.06	0.11	1.0	27
BZG03C39	G39	37	39	41	21	40	10	0.06	0.11	1.0	30
BZG03C43	G43	40	43	46	24	45	10	0.07	0.12	1.0	33
BZG03C47	G47	44	47	50	24	45	10	0.07	0.12	1.0	36
BZG03C51	G51	48	51	54	25	60	10	0.07	0.12	1.0	39
BZG03C56	G56	52	56	60	25	60	10	0.07	0.12	1.0	43
BZG03C62	G62	58	62	66	25	80	10	0.08	0.13	1.0	47
BZG03C68	G68	64	68	72	25	80	10	0.08	0.13	1.0	51
BZG03C75	G75	70	75	79	30	100	10	0.08	0.13	1.0	56
BZG03C82	G82	77	82	87	30	100	10	0.08	0.13	1.0	62
BZG03C91	G91	85	91	96	60	200	5	0.09	0.13	1.0	68
BZG03C100	G100	94	100	106	60	200	5	0.09	0.13	1.0	75
BZG03C110	G110	104	110	116	80	250	5	0.09	0.13	1.0	82
BZG03C120	G120	114	120	127	80	250	5	0.09	0.13	1.0	91
BZG03C130	G130	124	130	141	110	300	5	0.09	0.13	1.0	100
BZG03C150	G150	138	150	156	130	300	5	0.09	0.13	1.0	110
BZG03C160	G160	153	160	171	150	350	5	0.09	0.13	1.0	120
BZG03C180	G180	168	180	191	180	400	5	0.09	0.13	1.0	130
BZG03C200	G200	188	200	212	200	500	5	0.09	0.13	1.0	150
BZG03C220	G220	208	220	233	350	750	2	0.09	0.13	1.0	160
BZG03C240	G240	228	240	256	400	850	2	0.09	0.13	1.0	180
BZG03C270	G270	251	270	289	450	1000	2	0.09	0.13	1.0	200

Ratings AND Charactieristic Curves

FIG.1 –TYPICAL FORWARD CHARACTERISTIC

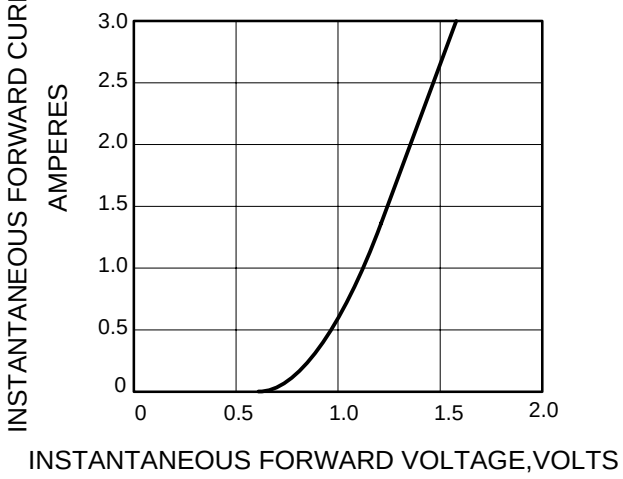


FIG.2 – NON REPETITIVE SURGE POWER DISSIPATION VS.PULSE LENGTH

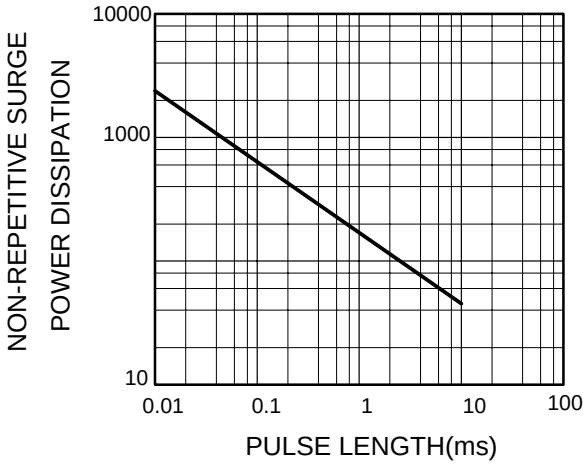


FIG3. TOTAL POWER DISSPATION VS. AMBIENT TEMPERATURE

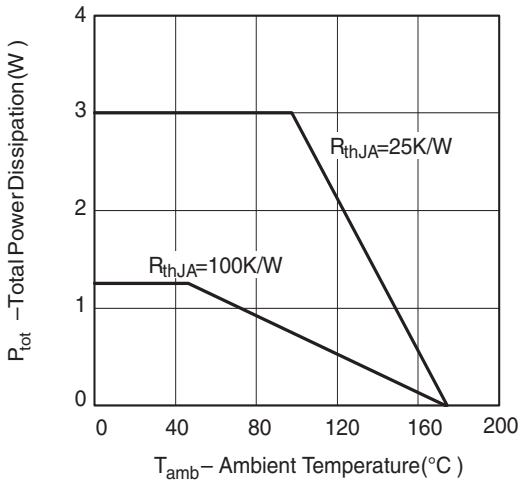
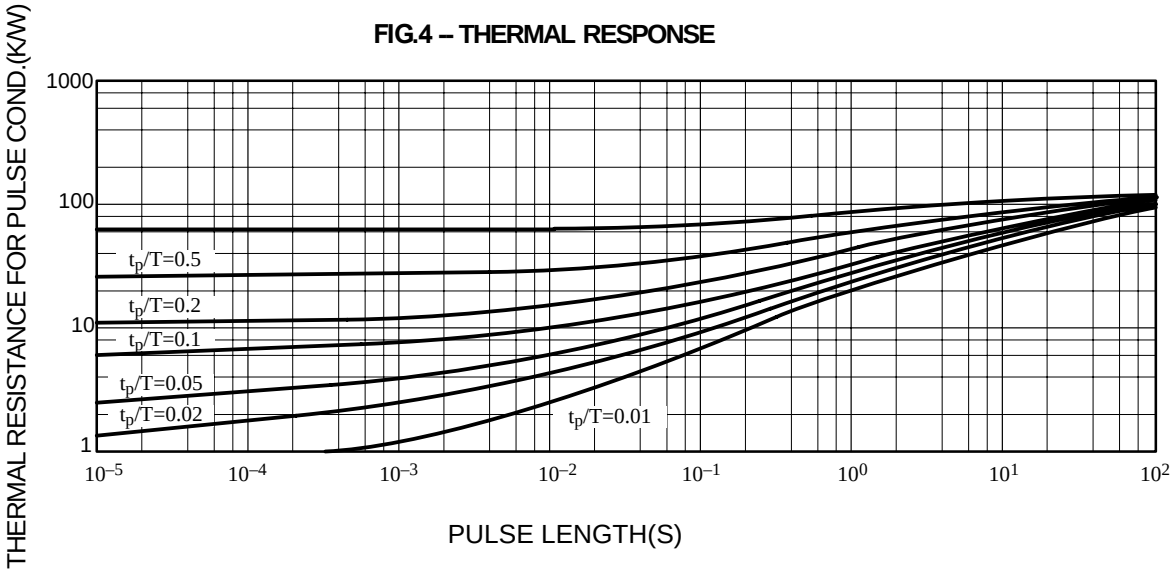
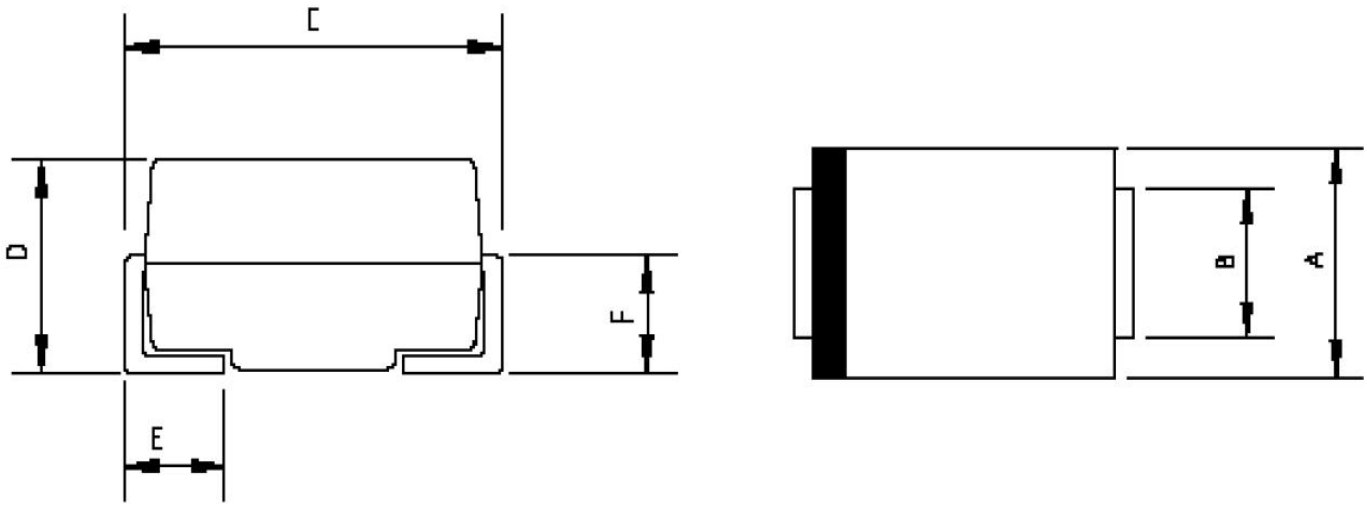


FIG.4 – THERMAL RESPONSE

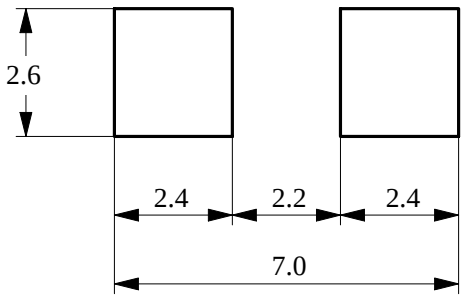


SMA Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.80	0.086	0.110
B	1.30	1.70	0.051	0.067
C	4.70	5.30	0.185	0.209
D	1.70	2.55	0.067	0.100
E	0.90	1.50	0.035	0.059
F	0.90	1.50	0.035	0.059

SMA Suggested Pad Layout



Note:

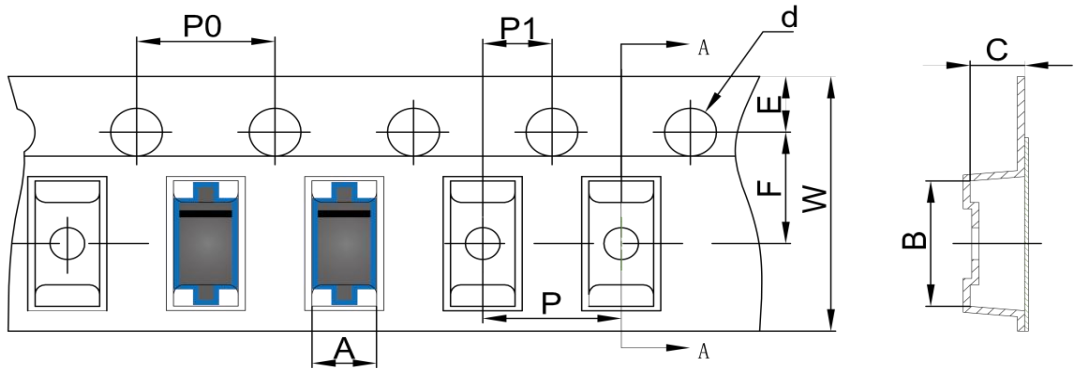
1.Controlling dimension: in millimeters

2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

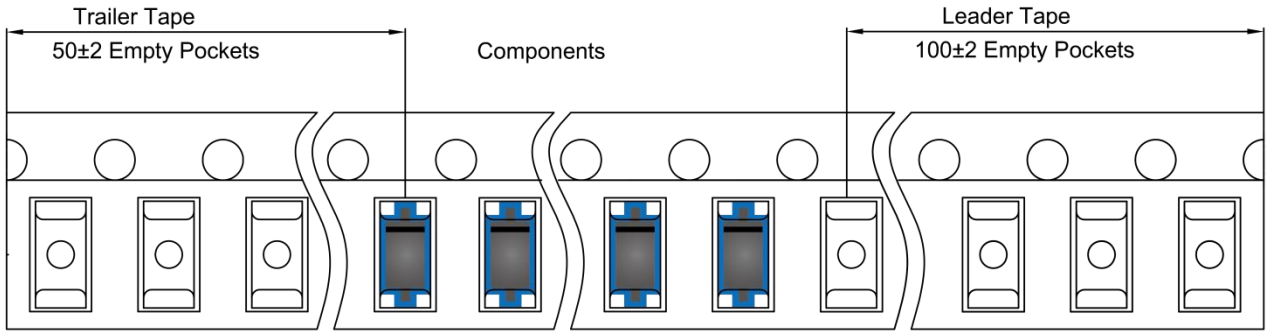
SMA Tape and Reel

SMA Embossed Carrier Tape

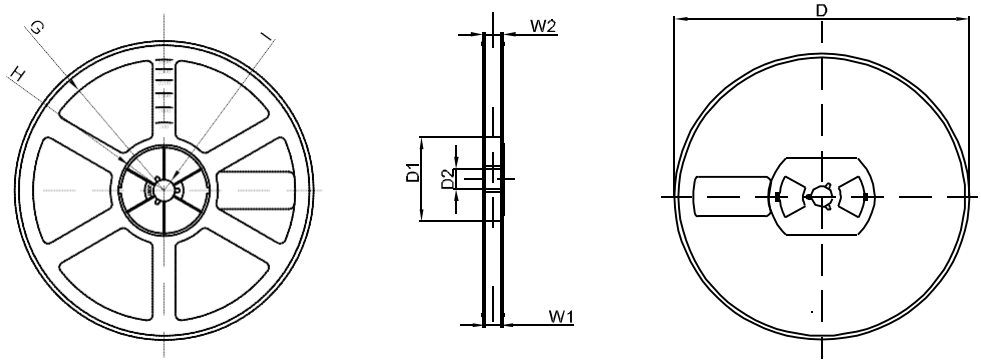


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMA	2.89	5.35	2.68	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMA Tape Leader and Trailer



SMA Reel



	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1