

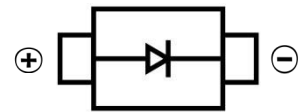
ZENER DIODE

FEATURES

- Glass Passivated Junction
- Excellent Clamping Capability
- Built-in Strain Relief
- Low Inductance
- Surface Mount device



SMA



MECHANICAL DATA

- Case: SMA(DO-214AC)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.065 grams (approximate)

MAXIMUM RATINGS AND CHARACTERISTICS($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
DC power dissipation at $T_L = 75^{\circ}\text{C}$	P_D	3	W
Maximum forward voltage at $I_F = 200\text{ mA}$	V_F	1.5	V
Junction temperature range	T_J	- 55 to + 150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	- 55 to + 150	$^{\circ}\text{C}$

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

Part Number	Device Marking Code	Nominal Zener Voltage		Maximum Zener Impedance			Max. Reverse Leakage Current		Max. 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)	(μA)	(V)	(mA)
SMA3EZ5.6D5	3H6	5.6	134.0	2.5	600	1.00	5.0	2.0	481
SMA3EZ6.2D5	3A0	6.2	121.0	1.5	700	1.00	5.0	3.0	435
SMA3EZ6.8D5	3A1	6.8	110.0	2.0	700	1.00	5.0	4.0	393
SMA3EZ7.5D5	3A2	7.5	100.0	2.0	700	0.50	5.0	5.0	360
SMA3EZ8.2D5	3A3	8.2	91.0	2.3	700	0.50	5.0	6.0	330
SMA3EZ9.1D5	3A4	9.1	82.0	2.5	700	0.50	3.0	7.0	297
SMA3EZ10D5	3A5	10.0	75.0	3.5	700	0.25	3.0	7.6	270
SMA3EZ11D5	3A6	11.0	68.0	4.0	700	0.25	1.0	8.4	225
SMA3EZ12D5	3A7	12.0	63.0	4.5	700	0.25	1.0	9.1	246
SMA3EZ13D5	3A8	13.0	58.0	4.5	700	0.25	0.5	9.9	208
SMA3EZ14D5	3A9	14.0	53.0	5.0	700	0.25	0.5	10.6	193
SMA3EZ15D5	3B0	15.0	50.0	5.5	700	0.25	0.5	11.4	180
SMA3EZ16D5	3B1	16.0	47.0	5.5	700	0.25	0.5	12.2	169
SMA3EZ17D5	3B2	17.0	44.0	6.0	750	0.25	0.5	13.0	159
SMA3EZ18D5	3B3	18.0	42.0	6.0	750	0.25	0.5	13.7	150
SMA3EZ19D5	3B4	19.0	40.0	7.0	750	0.25	0.5	14.4	142
SMA3EZ20D5	3B5	20.0	37.0	7.0	750	0.25	0.5	15.2	135
SMA3EZ22D5	3B6	22.0	34.0	8.0	750	0.25	0.5	16.7	123
SMA3EZ24D5	3B7	24.0	31.0	9.0	750	0.25	0.5	18.2	112
SMA3EZ27D5	3B8	27.0	28.0	10.0	750	0.25	0.5	20.6	100
SMA3EZ28D5	3B9	28.0	27.0	12.0	750	0.25	0.5	21.0	96
SMA3EZ30D5	3C0	30.0	25.0	16.0	1000	0.25	0.5	22.5	90
SMA3EZ33D5	3C1	33.0	23.0	20.0	1000	0.25	0.5	25.1	82
SMA3EZ36D5	3C2	36.0	21.0	22.0	1000	0.25	0.5	27.4	75
SMA3EZ39D5	3C3	39.0	19.0	28.0	1000	0.25	0.5	29.7	69
SMA3EZ43D5	3C4	43.0	17.0	33.0	1500	0.25	0.5	32.7	63
SMA3EZ47D5	3C5	47.0	16.0	38.0	1500	0.25	0.5	35.6	57
SMA3EZ51D5	3C6	51.0	15.0	45.0	1500	0.25	0.5	38.8	53
SMA3EZ56D5	3C7	56.0	13.0	50.0	2000	0.25	0.5	42.6	48
SMA3EZ62D5	3C8	62.0	12.0	55.0	2000	0.25	0.5	47.1	44
SMA3EZ68D5	3C9	68.0	11.0	70.0	2000	0.25	0.5	51.7	40
SMA3EZ75D5	3F0	75.0	10.0	85.0	2000	0.25	0.5	56.0	36
SMA3EZ82D5	3F1	82.0	9.1	95.0	3000	0.25	0.5	62.2	33
SMA3EZ91D5	3F2	91.0	8.2	115.0	3000	0.25	0.5	69.2	30
SMA3EZ100D5	3F3	100.0	7.5	160.0	3000	0.25	0.5	76.0	27
SMA3EZ110D5	3F4	110.0	6.8	225.0	4000	0.25	0.5	83.6	25
SMA3EZ120D5	3F5	120.0	6.3	300.0	4500	0.25	0.5	91.2	22
SMA3EZ130D5	3F6	130.0	5.8	375.0	5000	0.25	0.5	98.8	21
SMA3EZ140D5	3F7	140.0	5.3	475.0	5000	0.25	0.5	106.4	19
SMA3EZ150D5	3F8	150.0	5.0	550.0	6000	0.25	0.5	114.0	18
SMA3EZ160D5	3F9	160.0	4.7	625.0	6500	0.25	0.5	121.6	17
SMA3EZ170D5	3G1	170.0	4.4	650.0	7000	0.25	0.5	130.4	16
SMA3EZ180D5	3G2	180.0	4.2	700.0	7000	0.25	0.5	136.8	15
SMA3EZ190D5	3G3	190.0	4.0	800.0	8000	0.25	0.5	144.8	14
SMA3EZ200D5	3G4	200.0	3.7	875.0	8000	0.25	0.5	152.0	13
SMA3EZ220D5	3G5	220.0	2.0	750.0	8000	0.25	1.0	160.0	12
SMA3EZ240D5	3G6	240.0	2.0	850.0	8500	0.25	1.0	180.0	11
SMA3EZ270D5	3G7	270.0	2.0	1000	9000	0.25	1.0	200.0	10

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 JEDEC method

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Typical Characteristics

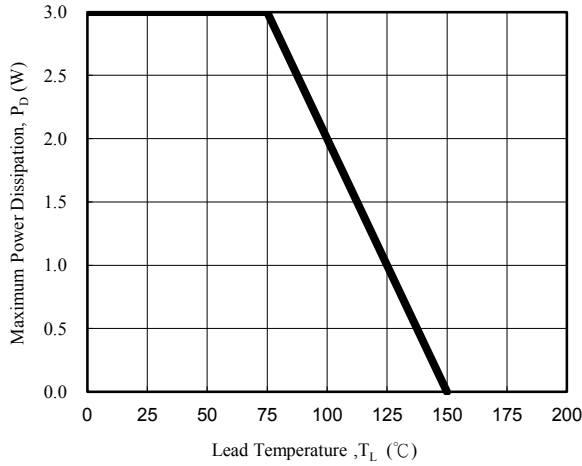


Fig. 1 - Power Temperature Derating Curve

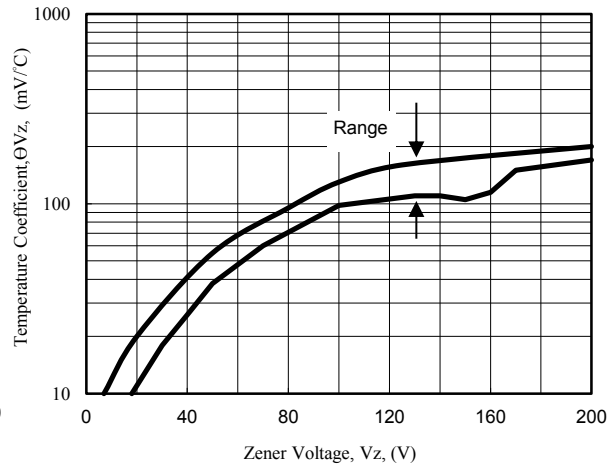


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

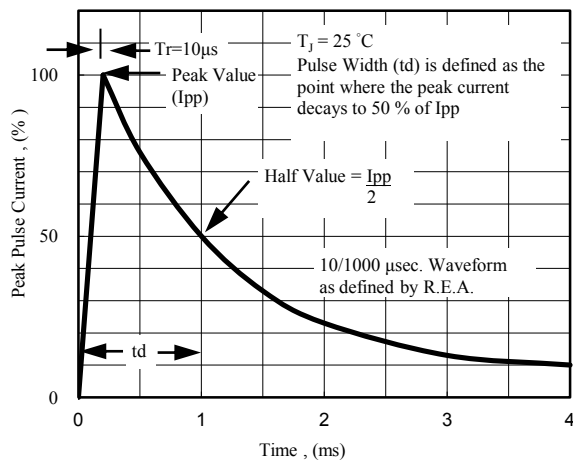


Fig. 3 - Pulse Waveform

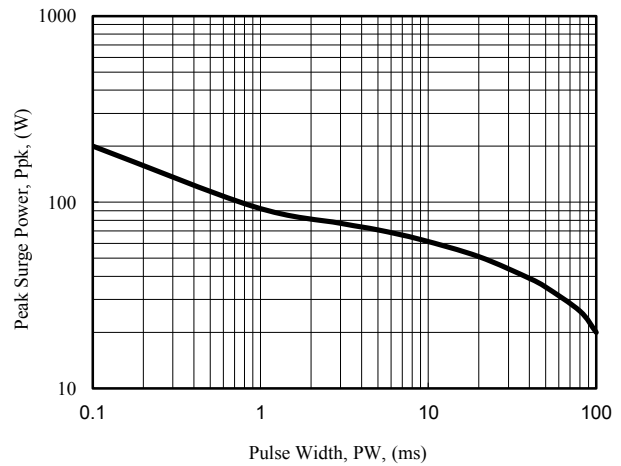
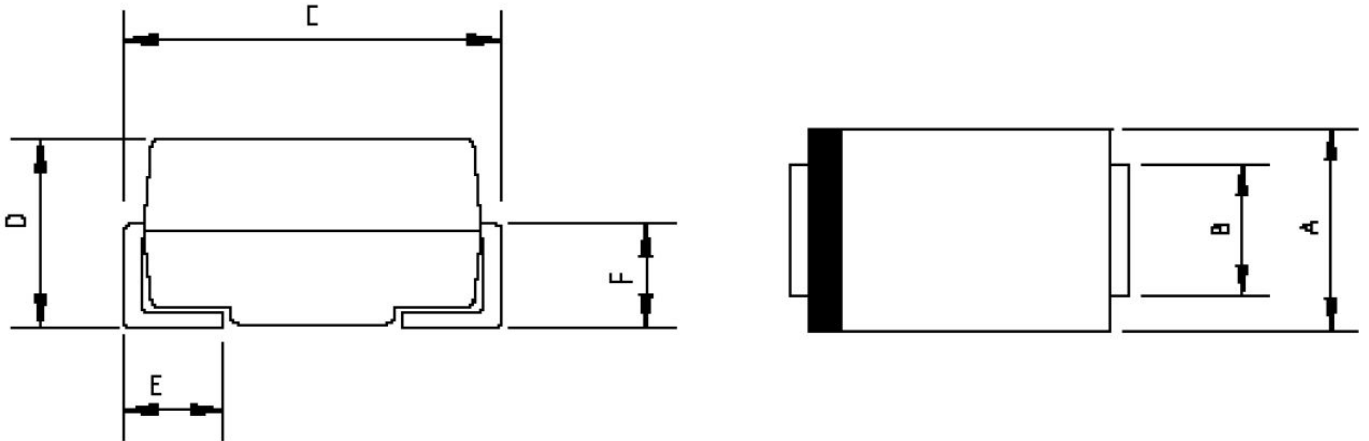


Fig. 4 - Maximum Surge Power

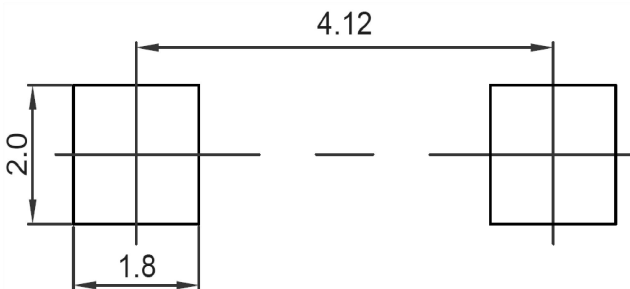
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SMA Package Outline Dimensions



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



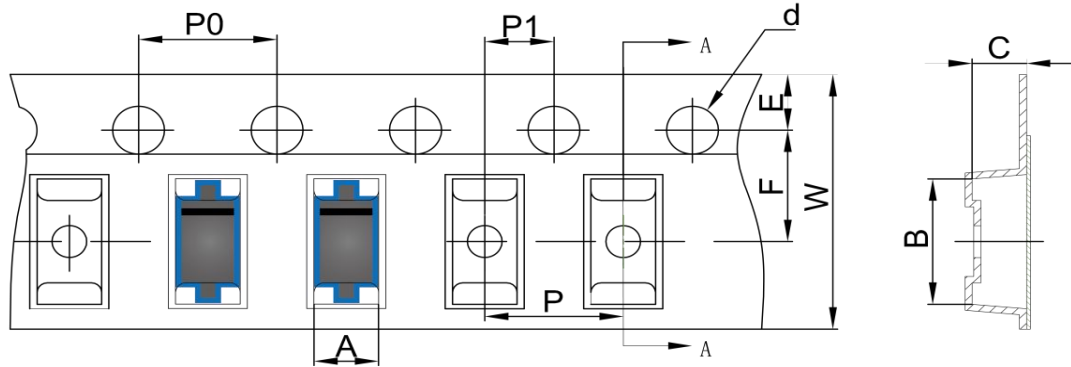
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

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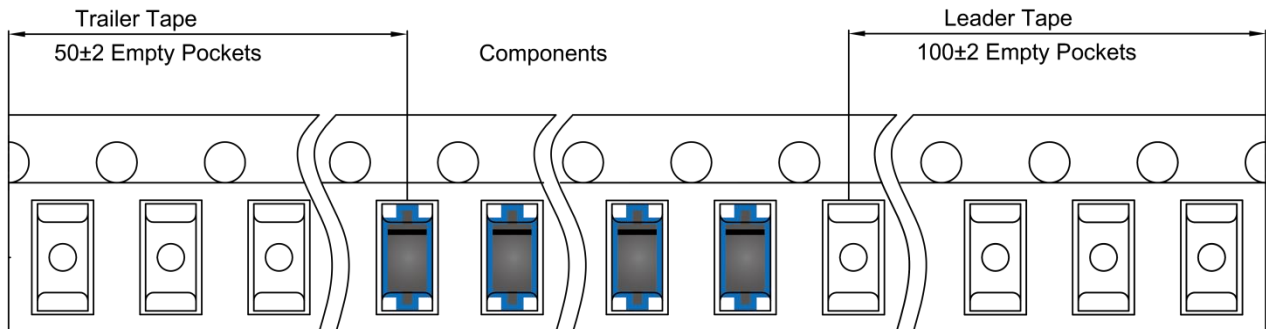
SMA Tape and Reel

SMA Embossed Carrier Tape

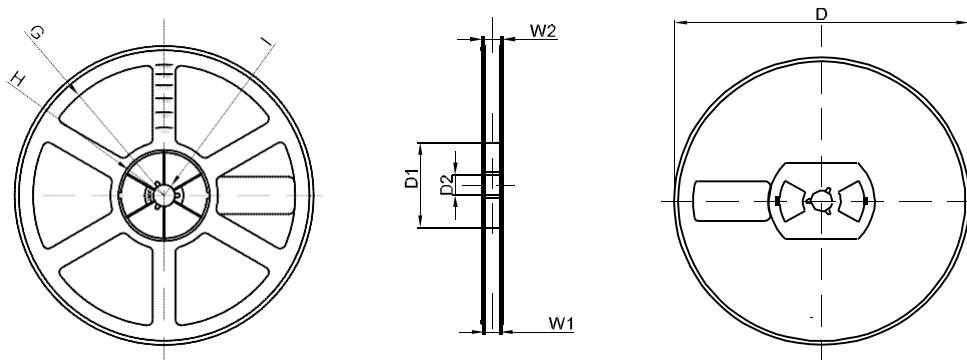


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMA	2.89	5.35	2.68	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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