



V_Z : 3.3 - 240 Volts

P_D : 1.5Watts

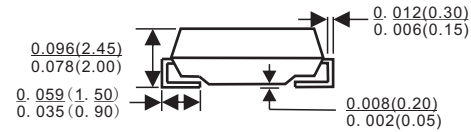
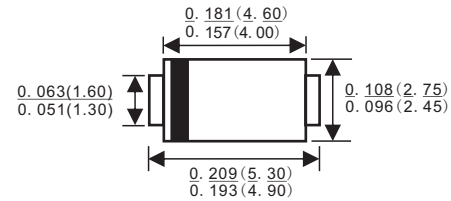
Features

- * Complete Voltage Range 3.3 to 240 Volts
- * High peak reverse power dissipation
- * High reliability
- * Low leakage current
- ESD Rating of Class 3 (> 16 kV) per Human Body Model

Mechanical Data

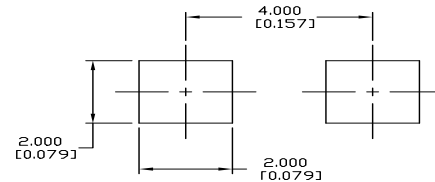
- * Case : SMA (DO-214AC) Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Lead formed for Surface mount
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.064gram

SMA/DO-214AC



Dimensions in inches and(millimeters)

Recommended mounting footprint



Rating	Symbol	Value	Unit
DC Power Dissipation at T _L = 75 °C (Note1)	P _D	1.5	Watts
Maximum Forward Voltage at I _F = 200 mA	V _F	1.5	Volts
Junction Temperature Range	T _J	- 65 to + 150	°C
Storage Temperature Range	T _s	- 65 to + 150	°C
Thermal Resistance, Junction-to-Lead (Note2)	R _{θJL}	50	°C/W
Thermal Resistance, Junction-to-Ambient(Note3)	R _{θJA}	250	°C/W

Note :

- (1) T_L = Lead temperature at 5.0 mm² (0.013 mm thick) copper land areas.
- (2) 1 in square copper pad,FR-4 board.
- (3) FR-4 Board,using recommended footprint.



ELECTRICAL CHARACTERISTICS

Rating at $T = 25^{\circ}\text{C}$ ambient temperature unless otherwise specified

TYPE	Nominal Zener Voltage				Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	VZ @ IZT			IZT	ZZT @ IZT	ZZK @ IZK	IZK	IR @	V R	IZM
	(V)			(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1SMA5913B	3.13	3.3	3.47	113.6	10	500	1	50	1	455
1SMA5914B	3.42	3.6	3.78	104.2	9	500	1	37.5	1	417
1SMA5915B	3.7	3.9	4.1	96.1	7.5	500	1	12.5	1	385
1SMA5916B	4.08	4.3	4.52	87.2	4.5	350	1	1.5	1	349
1SMA5917B	4.46	4.7	4.94	79.8	5	500	1	2.5	1.5	319
1SMA5918B	4.84	5.1	5.36	73.5	2	300	1	1.0	2	294
1SMA5919B	5.32	5.6	5.88	66.9	2	250	1	2.5	3	268
1SMA5920B	5.89	6.2	6.51	60.5	2	200	1	2.5	4	242
1SMA5921B	6.46	6.8	7.14	55.1	2.5	200	1	2.5	5.2	221
1SMA5922B	7.12	7.5	7.88	50	3	400	0.5	2.5	6	200
1SMA5923B	7.79	8.2	8.61	45.7	3.5	400	0.5	2.5	6.5	183
1SMA5924B	8.64	9.1	9.56	41.2	4	500	0.5	2.5	7	165
1SMA5925B	9.5	10	10.5	37.5	4.5	500	0.25	2.5	8	150
1SMA5926B	10.45	11	11.55	34.1	5.5	550	0.25	0.5	8.4	136
1SMA5927B	11.4	12	12.6	31.2	6.5	550	0.25	0.5	9.1	125
1SMA5928B	12.35	13	13.65	28.8	7	550	0.25	0.5	9.9	115
1SMA5929B	14.25	15	15.75	25	9	600	0.25	0.5	11.4	100
1SMA5930B	15.2	16	16.8	23.4	10	600	0.25	0.5	12.2	93
1SMA5931B	17.1	18	18.9	20.8	12	650	0.25	0.5	13.7	83
1SMA5932B	19	20	21	18.7	14	650	0.25	0.5	15.2	75
1SMA5933B	20.9	22	23.1	17	17.5	650	0.25	0.5	16.7	68
1SMA5934B	22.8	24	25.2	15.6	19	700	0.25	0.5	18.2	63
1SMA5935B	25.65	27	28.35	13.9	23	700	0.25	0.5	20.6	56
1SMA5936B	28.5	30	31.5	12.5	28	750	0.25	0.5	22.8	50
1SMA5937B	31.35	33	34.65	11.4	33	800	0.25	0.5	25.1	45
1SMA5938B	34.2	36	37.8	10.4	38	850	0.25	0.5	27.4	42
1SMA5939B	37.05	39	40.95	9.6	45	900	0.25	0.5	29.7	38
1SMA5940B	40.85	43	45.15	8.7	53	950	0.25	0.5	32.7	35
1SMA5941B	44.65	47	49.35	8	67	1000	0.25	0.5	35.8	32
1SMA5942B	48.45	51	53.55	7.3	70	1100	0.25	0.5	38.8	29
1SMA5943B	53.2	56	58.8	6.7	86	1300	0.25	0.5	42.6	27
1SMA5944B	58.9	62	65.1	6	100	1500	0.25	0.5	47.1	22
1SMA5945B	64.6	68	71.4	5.5	80	1700	0.25	0.5	51.7	21
1SMA5946B	71.25	75	78.75	5	140	2000	0.25	0.5	56	20
1SMA5947B	77.9	82	86.1	4.6	160	2500	0.25	0.5	62.2	18
1SMA5948B	86.45	91	95.55	4.1	200	3000	0.25	0.5	69.2	16
1SMA5949B	95	100	105	3.7	250	3100	0.25	0.5	76	15
1SMA5950B	104.5	110	115.5	3.4	300	4000	0.25	0.5	83.6	13
1SMA5951B	114	120	126	3.1	380	4500	0.25	0.5	91.2	12
1SMA5952B	123.5	130	136.5	2.9	450	5000	0.25	0.5	98.8	11
1SMA5953B	142.5	150	157.5	2.5	600	6000	0.25	0.5	114	10
1SMA5954B	152	160	168	2.3	700	6500	0.25	0.5	121.6	9
1SMA5955B	171	180	189	2.1	900	7000	0.25	0.5	136.8	8
1SMA5956B	190	200	210	1.9	1200	8000	0.25	0.5	152	7
1SMA5957B	228	240	252	1.5	1600	9000	0.25	0.5	182.4	6

Note :

(1) Suffix "A" indicates 10% tolerance, suffix "B" indicates 5.0% tolerance.

RATING AND TYPICAL CHARACTERISTIC CURVES ($T_A = 25^\circ\text{C}$)

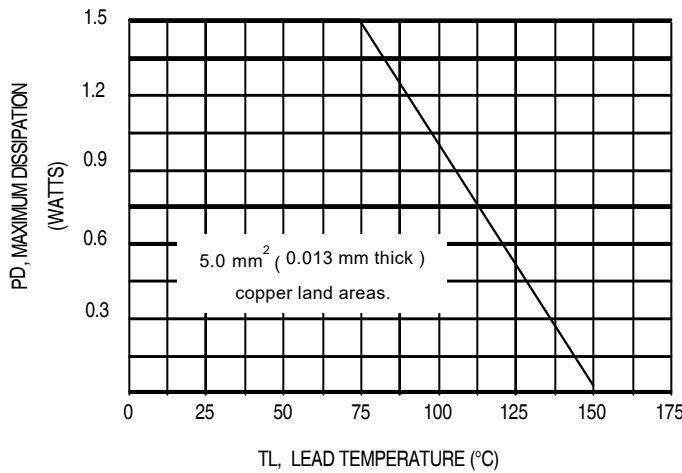


Figure 1. POWER TEMPERATURE DERATING CURVE

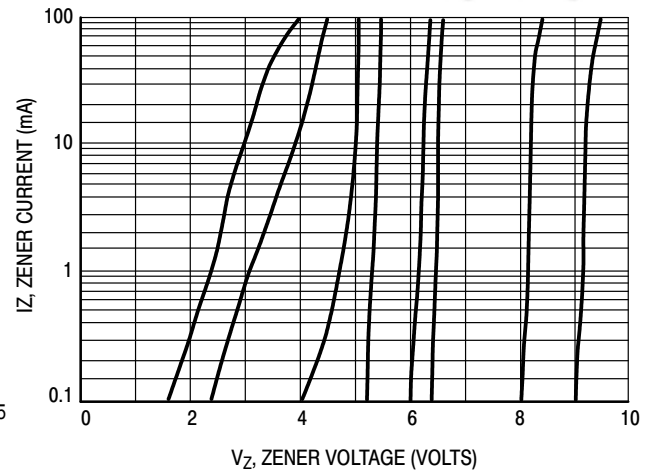


Figure 2. V_Z - 3.3 thru 10 Volts

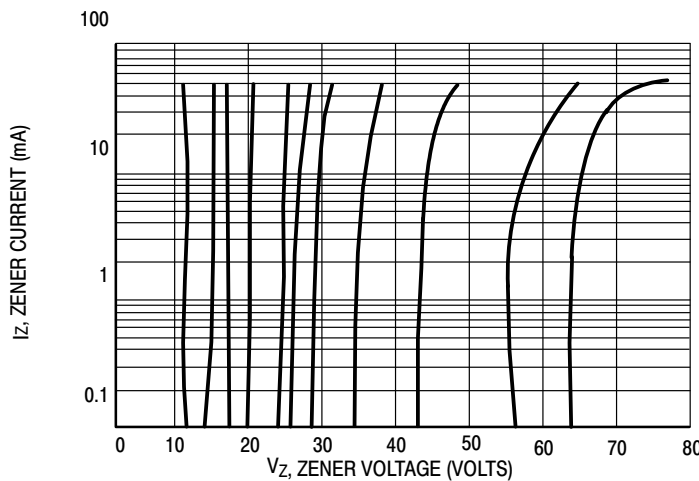


Figure 3. $V_Z = 12$ thru 68 Volts

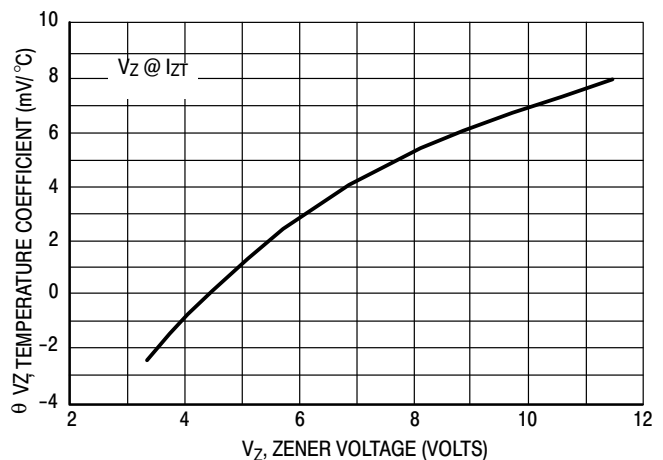


Figure 4. Zener Voltage - 3.3 to 12 Volts

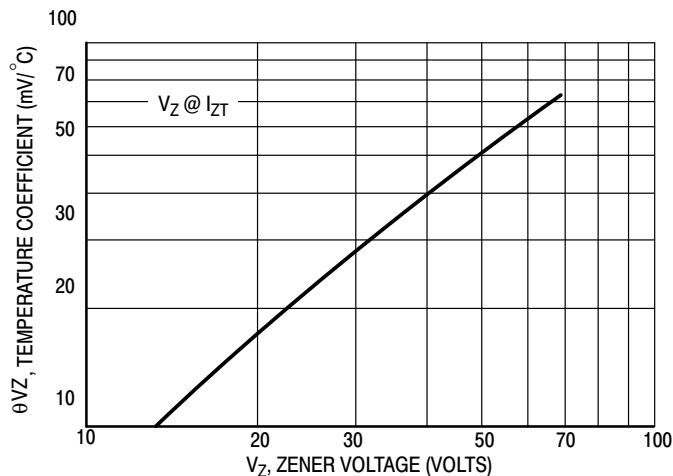


Figure 5. Zener Voltage - 12 to 68 Volts

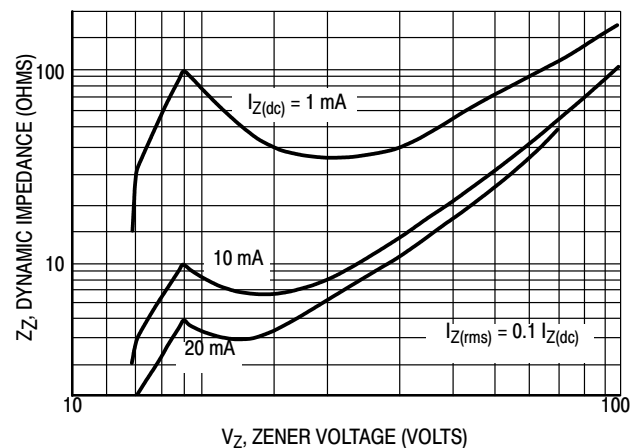


Figure 6. Effect of Zener Voltage

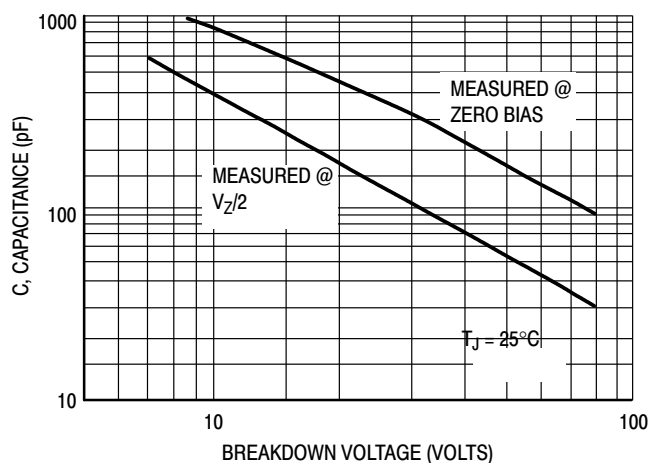


Figure 7. Capacitance Curve

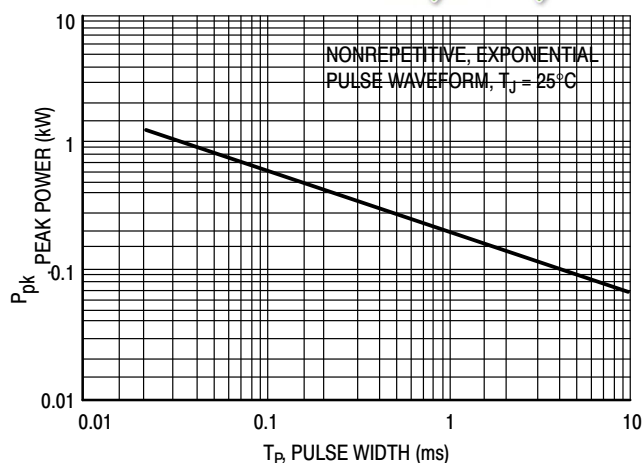


Figure 8. Typical Pulse Rating Curve

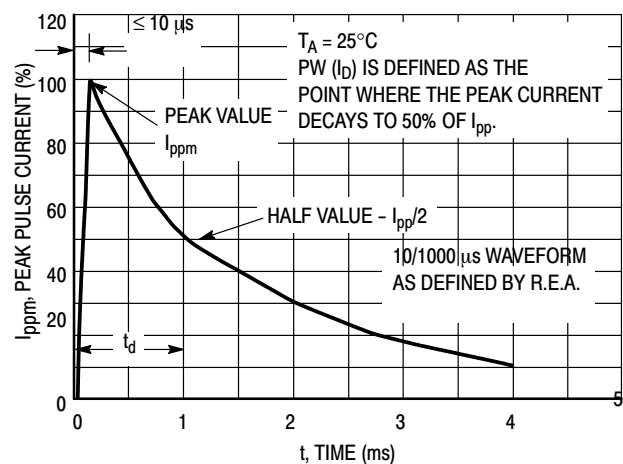


Figure 9. Pulse Waveform

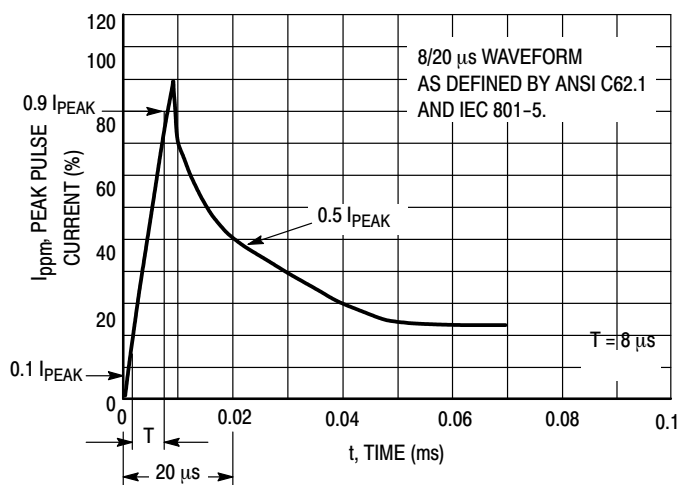


Figure 10. Pulse Waveform

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00