



Thyristor Surge Suppressors

■ Features

- Zener Voltage – 3.9-200 V
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- Flat Handling Surface for Accurate Placement
- Package Design for Top Side or Bottom Circuit Board Mounting
- Pb-Free Packages

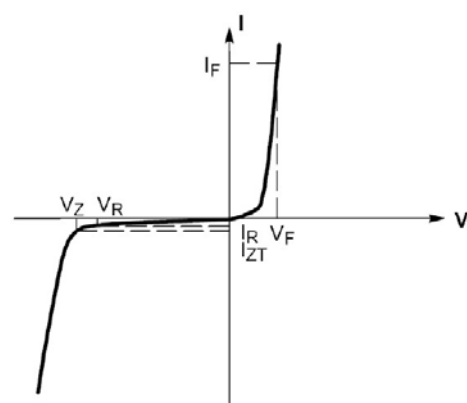
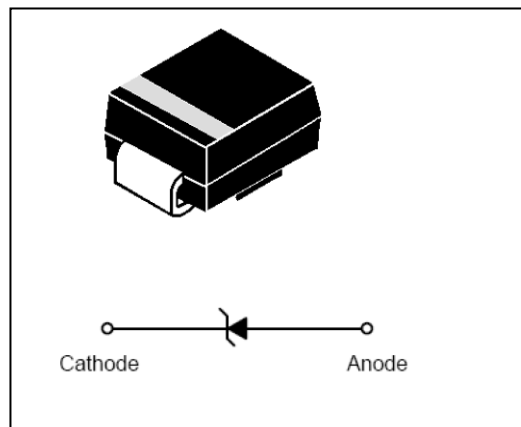
■ Electrical Characteristics

(TL = 30°C unless otherwise noted,

VF = 1.5 V Max. @ IF = 200 mA(dc) for all types)

Symbol	Parameter
VZ	Reverse Zener Voltage @ IZT
IZT	Reverse Current
ZZT	Maximum Zener Impedance @ IZT
IZK	Reverse Current
Z	Maximum Zener Impedance @ I
IR	Reverse Leakage Current @ VR
VR	Reverse Voltage
IF	Forward Current
VF	Forward Voltage @ IF
IZM	Maximum DC Zener Current

■ Outline Dimensions and Mark



Zener Voltage Regulator

■ Maximum Ratings @ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Maximum Steady State Power Dissipation @ TL = 75°C Measured at Zero Lead Length Derate Above 75°C	PD	1.5 20	W mW/°C
Maximum Steady State Power Dissipation @ TA= 25°C(Note) Derate Above 25°C	PD	250 4.0	Mw mW/°C
Operating and Storage Temperature Range	TJ, TSTG	-55 to 150	°C



SMA5915B THRU SMA5945B

■Electrical Specification @ Ta= 25°C

Type No.	Nominal Zener Voltage			Test Current	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	VZ@IZT			IZT	ZZT@IZ T	ZZK@IZ K	IZK	IR @ VR		IZM
	MIN	Nom	MAX	(mA)	(Ω)	(Ω)	(mA)	(uA)	(V)	(mA)
SMA5915B	3.7	3.9	4.1	96.1	7.5	500	1.0	12.5	1.0	385
SMA5916B	4.08	4.3	4.52	87.2	6.0	500	1.0	2.5	1.0	349
SMA5917B	4.46	4.7	4.94	79.8	5.0	500	1.0	2.5	1.5	319
SMA5918B	4.84	5.1	5.36	73.5	4.0	350	1.0	2.5	2.0	294
SMA5919B	5.32	5.6	5.88	66.9	2.0	250	1.0	2.5	3.0	268
SMA5920B	5.89	6.2	6.51	60.5	2.0	200	1.0	2.5	4.0	242
SMA5921B	6.46	6.8	7.14	55.1	2.5	200	1.0	2.5	5.2	221
SMA5922B	7.12	7.5	7.88	50	3.0	400	0.5	2.5	6.0	200
SMA5923B	7.79	8.2	8.61	45.7	3.5	400	0.5	2.5	6.5	183
SMA5924B	8.64	9.1	9.56	40.2	4.0	500	0.5	2.5	7.0	165
SMA5925B	9.5	10	10.5	37.5	4.5	500	0.25	2.5	8.0	150
SMA5926B	10.45	11	11.55	34.1	5.5	550	0.25	0.5	8.4	136
SMA5927B	11.4	12	12.6	31.2	6.5	550	0.25	0.5	9.1	125
SMA5928B	12.35	13	13.65	28.8	7.0	550	0.25	0.5	9.9	115
SMA5929B	14.25	15	15.75	25	9.0	600	0.25	0.5	11.4	100
SMA5930B	15.2	16	16.8	23.4	10	600	0.25	0.5	12.2	94
SMA5931B	17.1	18	18.9	20.8	12	650	0.25	0.5	13.7	83
SMA5932B	19	20	21	18.7	14	650	0.25	0.5	15.2	75
SMA5933B	20.9	22	23.1	17	17.5	650	0.25	0.5	16.7	68
SMA5934B	22.8	24	25.2	15.6	19	700	0.25	0.5	18.2	63
SMA5935B	25.65	27	28.35	13.9	23	700	0.25	0.5	20.6	56
SMA5936B	28.5	30	31.5	12.5	26	750	0.25	0.5	22.5	50
SMA5937B	31.35	33	34.65	11.4	33	800	0.25	0.5	25.1	45
SMA5938B	34.2	36	37.8	10.4	38	850	0.25	0.5	27.4	42
SMA5939B	37.05	39	40.95	9.6	45	900	0.25	0.5	29.7	38
SMA5940B	40.85	43	45.15	8.7	53	950	0.25	0.5	32.7	35
SMA5941B	44.65	47	49.35	8.0	67	1000	0.25	0.5	35.6	32
SMA5942B	48.45	51	53.55	7.3	70	1100	0.25	0.5	38.8	29
SMA5943B	53.2	56	58.1	6.7	86	1300	0.25	0.5	42.6	27
SMA5944B	58.9	62	65.1	6.0	100	1500	0.25	0.5	47.1	24
SMA5945B	64.6	68	71.4	5.5	120	1700	0.25	0.5	51.7	22

■ Ratings and Characteristic Curves $T_a=25^\circ\text{C}$ unless otherwise noted

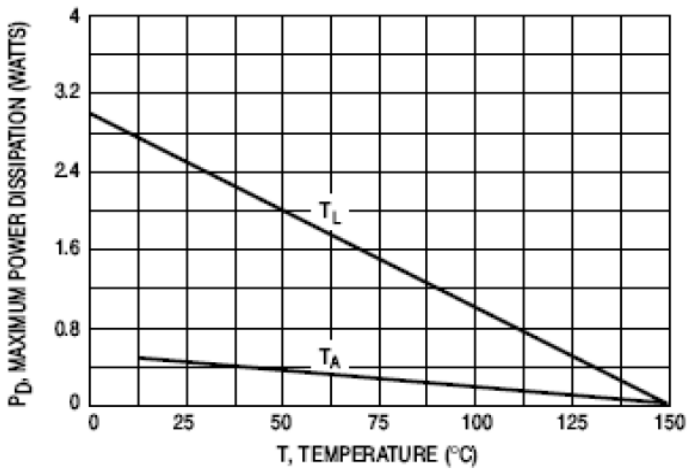


Figure 1. Steady State Power Derating

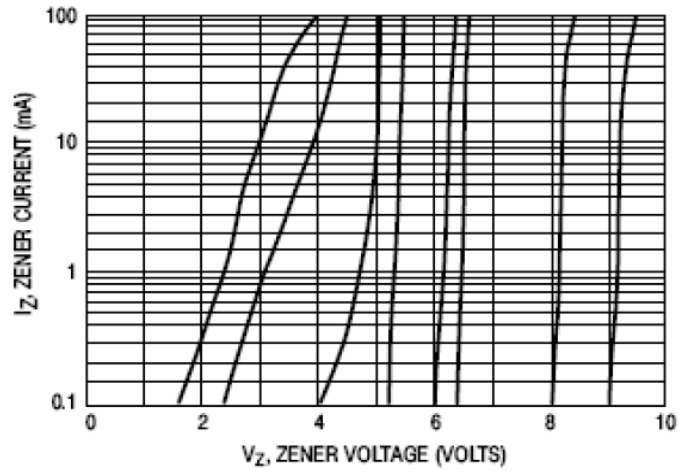


Figure 2. V_Z - 3.3 thru 10 Volts

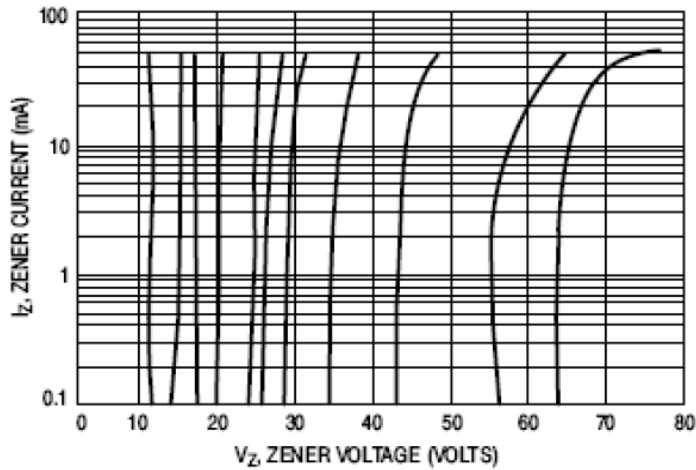


Figure 3. V_Z = 12 thru 68 Volts

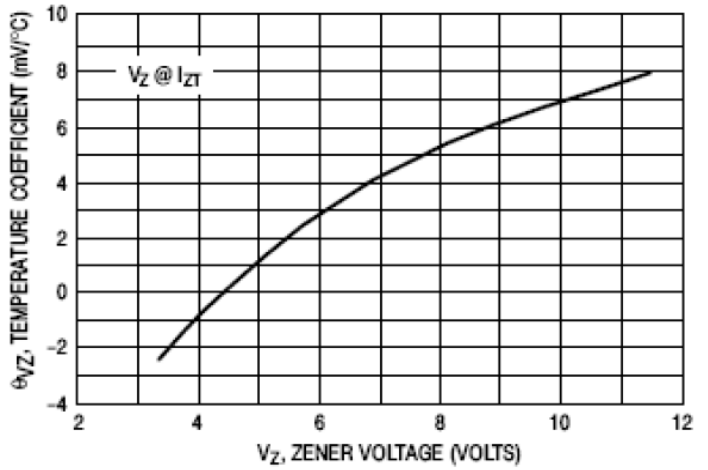


Figure 4. Zener Voltage - 3.3 to 12 Volts

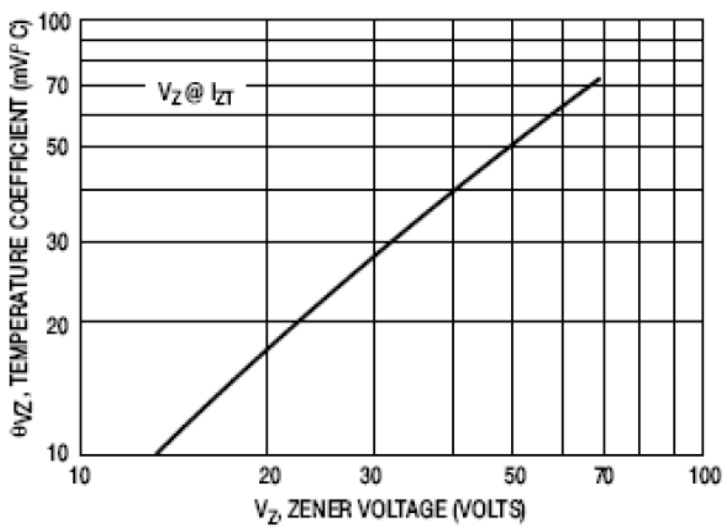


Figure 5. Zener Voltage - 12 to 68 Volts

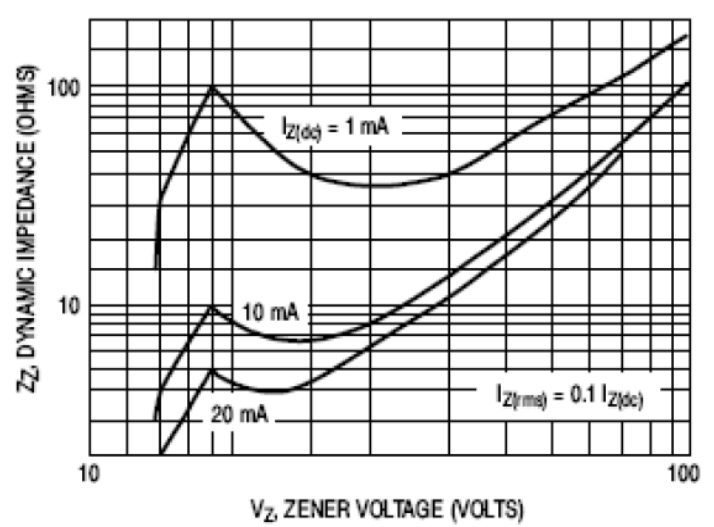


Figure 6. Effect of Zener Voltage



SMA5915B THRU SMA5945B

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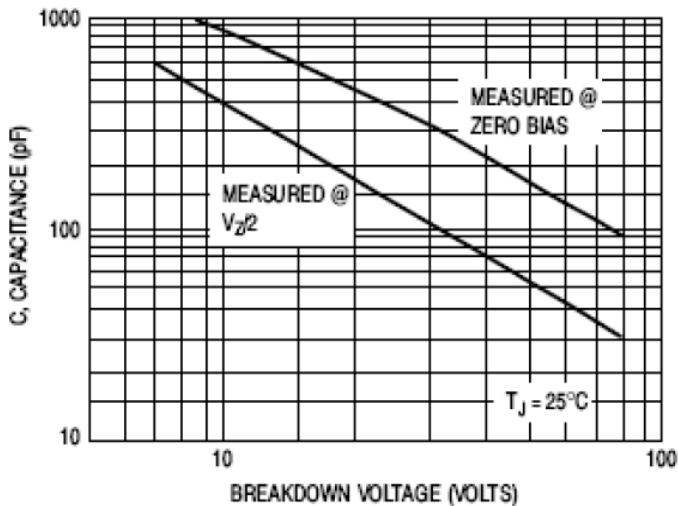


Figure 7. Capacitance Curve

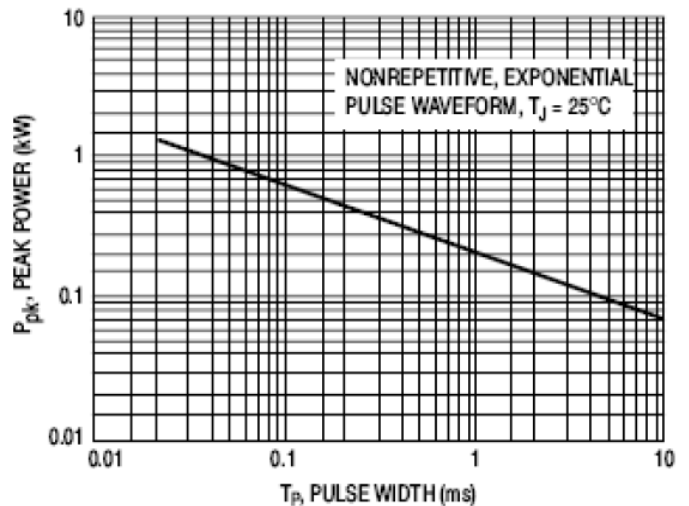


Figure 8. Typical Pulse Rating Curve

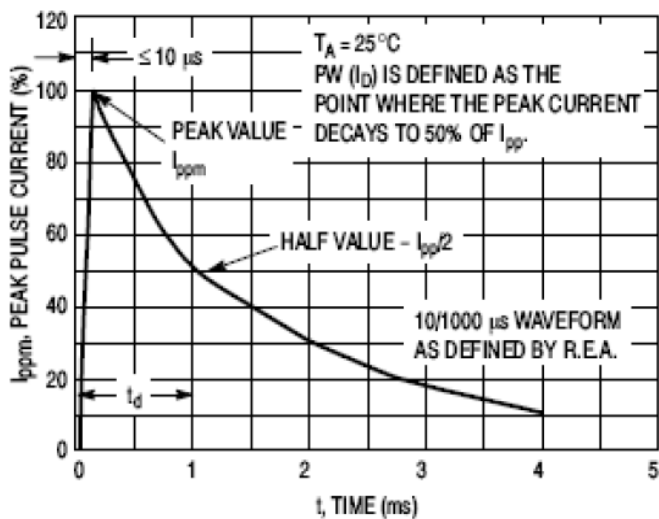


Figure 9. Pulse Waveform

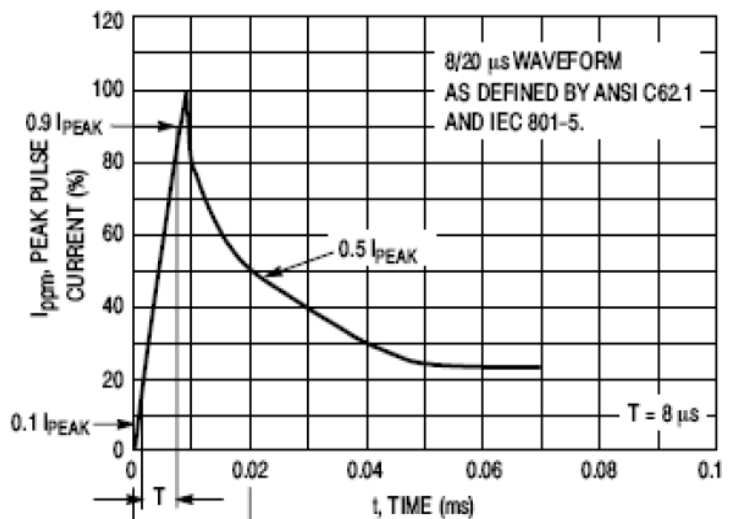
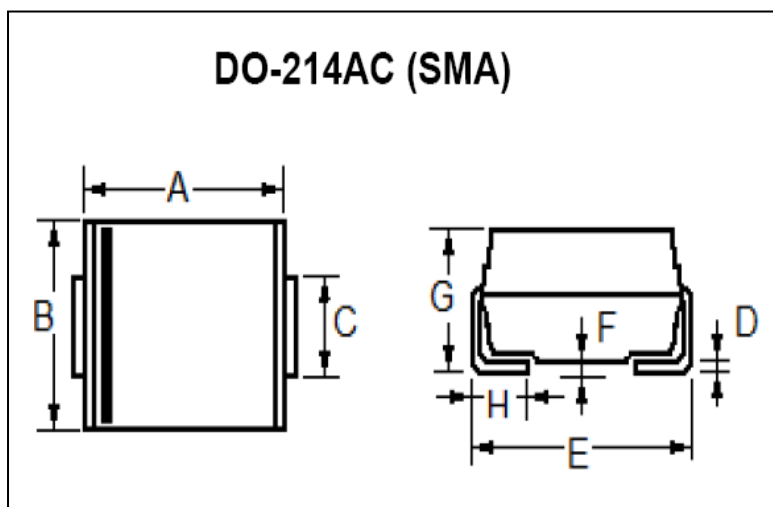


Figure 10. Pulse Waveform

■ Package Outline Dimensions and Pad Layouts



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	3.99	4.50	0.157	0.177
B	2.54	2.79	0.100	0.110
C	1.25	1.65	0.049	0.065
D	0.152	0.305	0.006	0.012
E	4.93	5.28	0.194	0.208
F	---	0.203	---	0.008
G	1.98	2.29	0.078	0.090
H	0.76	1.52	0.030	0.060