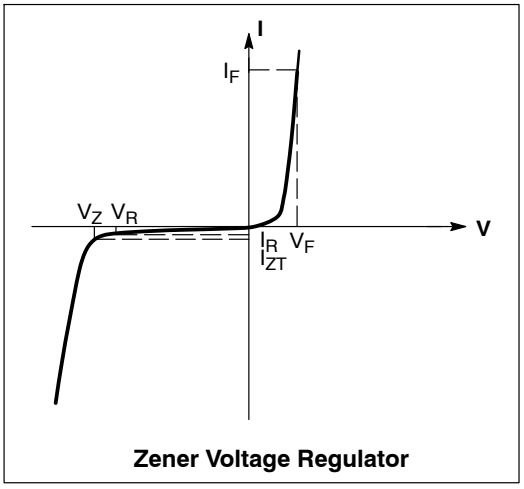
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 1.5 V Max. @ I_F = 200 mA for all types)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
I_{ZM}	Maximum DC Zener Current



Zener Voltage Regulator

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 1.5 V Max. @ I_F = 200 mA for all types)

Device* (Note 3)	Device Marking	Zener Voltage (Note 4)				Zener Impedance			Leakage Current		I_{ZM}
		V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		
		Min	Nom	Max	mA	Ω	Ω	mA	μA	Volts	mA(dc)
SZ/1SMA5913BT3, G	813B	3.13	3.3	3.47	113.6	10	500	1.0	50	1.0	455
1SMA5914BT3, G	814B	3.42	3.6	3.78	104.2	9.0	500	1.0	35.5	1.0	417
SZ/1SMA5915BT3, G	815B	3.70	3.9	4.10	96.1	7.5	500	1.0	12.5	1.0	385
SZ/1SMA5916BT3, G	816B	4.08	4.3	4.52	87.2	6.0	500	1.0	2.5	1.0	349
SZ/1SMA5917BT3, G	817B	4.46	4.7	4.94	79.8	5.0	500	1.0	2.5	1.5	319
SZ/1SMA5918BT3, G	818B	4.84	5.1	5.36	73.5	4.0	350	1.0	2.5	2.0	294
SZ/1SMA5919BT3, G	819B	5.32	5.6	5.88	66.9	2.0	250	1.0	2.5	3.0	268
SZ/1SMA5920BT3, G	820B	5.89	6.2	6.51	60.5	2.0	200	1.0	2.5	4.0	242
SZ/1SMA5921BT3, G	821B	6.46	6.8	7.14	55.1	2.5	200	1.0	2.5	5.2	221
SZ/1SMA5922BT3, G	822B	7.12	7.5	7.88	50	3.0	400	0.5	2.5	6.0	200
SZ/1SMA5923BT3, G	823B	7.79	8.2	8.61	45.7	3.5	400	0.5	2.5	6.5	183
SZ/1SMA5924BT3, G	824B	8.64	9.1	9.56	41.2	4.0	500	0.5	2.5	7.0	165
SZ/1SMA5925BT3, G	825B	9.5	10	10.5	37.5	4.5	500	0.25	2.5	8.0	150
1SMA5926BT3, G	826B	10.45	11	11.55	34.1	5.5	550	0.25	0.5	8.4	136
SZ/1SMA5927BT3, G	827B	11.4	12	12.6	31.2	6.5	550	0.25	0.5	9.1	125
SZ/1SMA5928BT3, G	828B	12.35	13	13.65	28.8	7.0	550	0.25	0.5	9.9	115
SZ/1SMA5929BT3, G	829B	14.25	15	15.75	25	9.0	600	0.25	0.5	11.4	100
SZ/1SMA5930BT3, G	830B	15.2	16	16.8	23.4	10	600	0.25	0.5	12.2	94
SZ/1SMA5931BT3, G	831B	17.1	18	18.9	20.8	12	650	0.25	0.5	13.7	83
SZ/1SMA5932BT3, G	832B	19	20	21	18.7	14	650	0.25	0.5	15.2	75
SZ/1SMA5933BT3, G	833B	20.9	22	23.1	17	17.5	650	0.25	0.5	16.7	68
SZ/1SMA5934BT3, G	834B	22.8	24	25.2	15.6	19	700	0.25	0.5	18.2	63
SZ/1SMA5935BT3, G	835B	25.65	27	28.35	13.9	23	700	0.25	0.5	20.6	56
SZ/1SMA5936BT3, G	836B	28.5	30	31.5	12.5	26	750	0.25	0.5	22.8	50
SZ/1SMA5937BT3, G	837B	31.35	33	34.65	11.4	33	800	0.25	0.5	25.1	45
SZ/1SMA5938BT3, G	838B	34.2	36	37.8	10.4	38	850	0.25	0.5	27.4	42
SZ/1SMA5939BT3, G	839B	37.05	39	40.95	9.6	45	900	0.25	0.5	29.7	38
SZ/1SMA5940BT3, G	840B	40.85	43	45.15	8.7	53	950	0.25	0.5	32.7	35
SZ/1SMA5941BT3, G	841B	44.65	47	49.35	8.0	67	1000	0.25	0.5	35.8	32
SZ/1SMA5942BT3, G	842B	48.45	51	53.55	7.3	70	1100	0.25	0.5	38.8	29
SZ/1SMA5943BT3, G	843B	53.2	56	58.8	6.7	86	1300	0.25	0.5	42.6	27
1SMA5944BT3, G	844B	58.9	62	65.1	6.0	100	1500	0.25	0.5	47.1	24
SZ/1SMA5945BT3, G	845B	64.6	68	71.4	5.5	120	1700	0.25	0.5	51.7	22

3. Tolerance and Voltage Regulation Designation − The type number listed indicates a tolerance of ±5%.
4. V_Z limits are to be guaranteed at thermal equilibrium.

* The “G” suffix indicates Pb−Free package available.

RATING AND TYPICAL CHARACTERISTIC CURVES (T_A = 25°C)

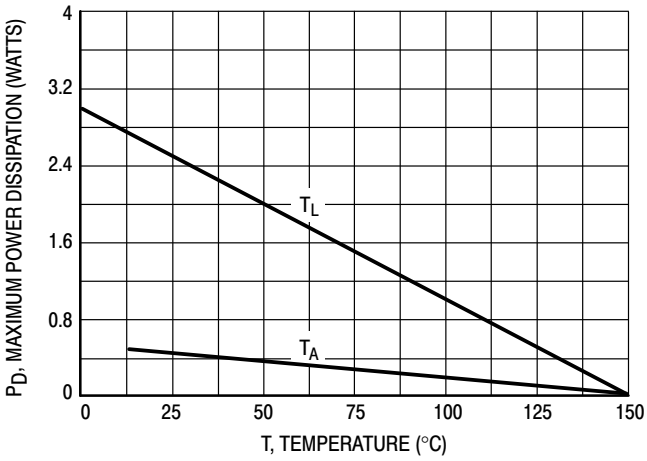


Figure 1. Steady State Power Derating

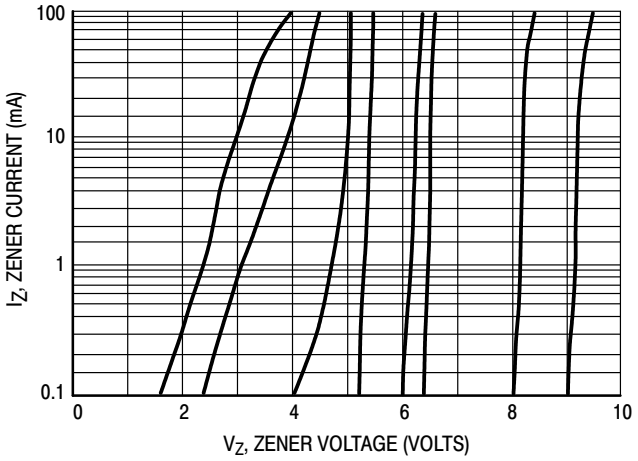


Figure 2. V_Z – 3.3 thru 10 Volts

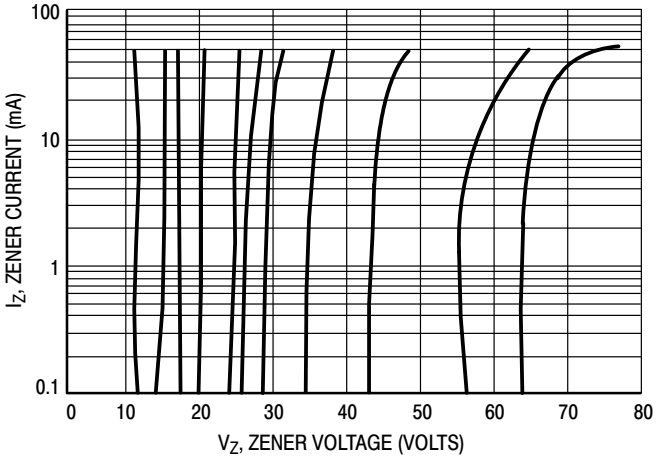


Figure 3. V_Z = 12 thru 68 Volts

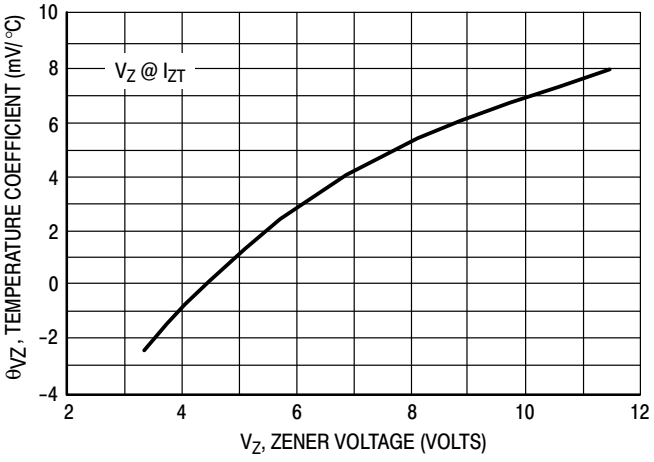


Figure 4. Zener Voltage – 3.3 to 12 Volts

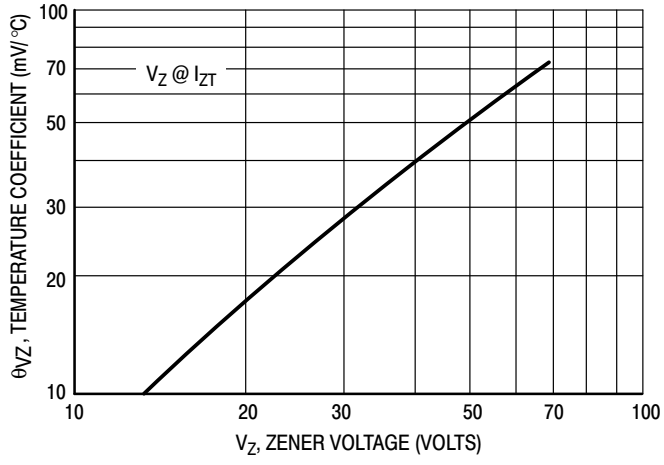


Figure 5. Zener Voltage – 12 to 68 Volts

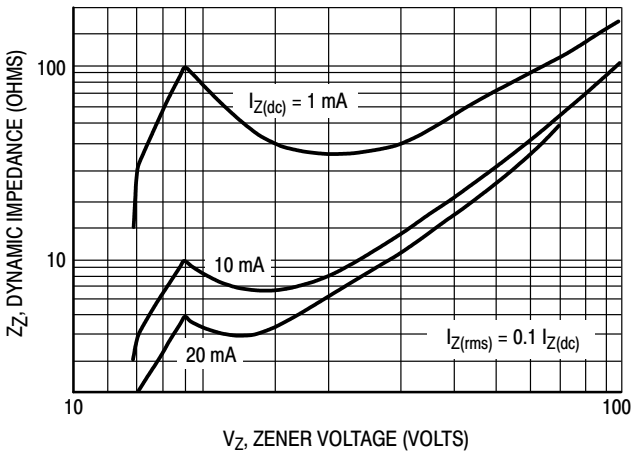


Figure 6. Effect of Zener Voltage

RATING AND TYPICAL CHARACTERISTIC CURVES (T_A = 25°C)

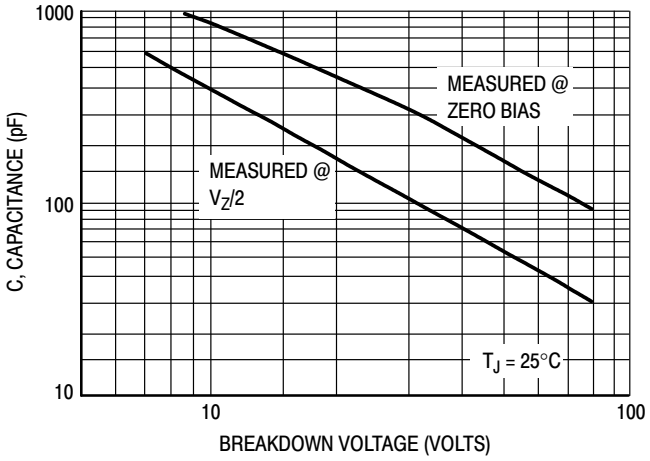


Figure 7. Capacitance Curve

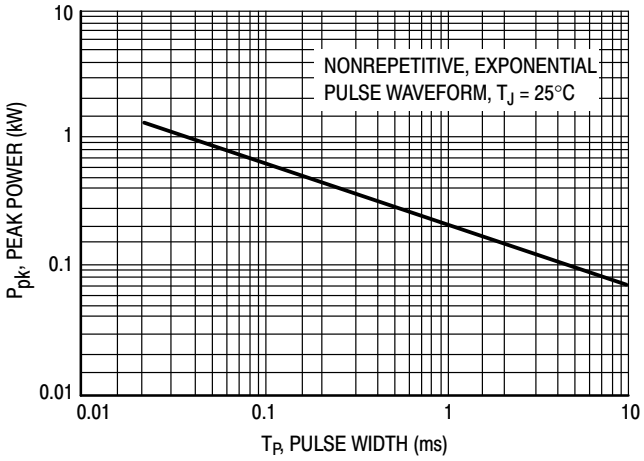


Figure 8. Typical Pulse Rating Curve

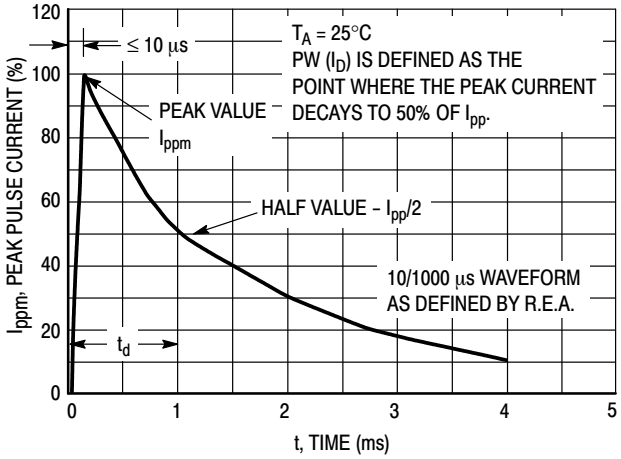


Figure 9. Pulse Waveform

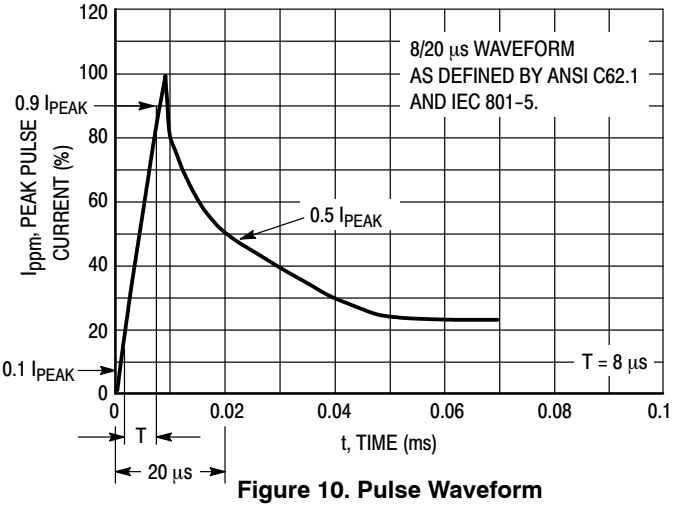
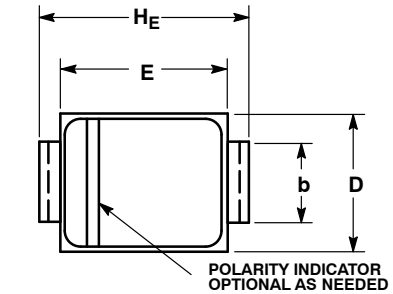
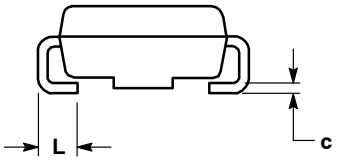


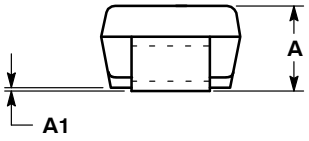
Figure 10. Pulse Waveform

PACKAGE DIMENSIONS

SMA
CASE 403D−02
ISSUE F





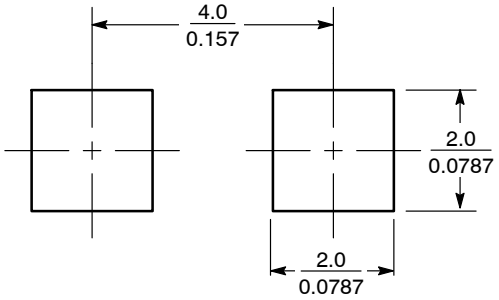


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 403D−01 OBSOLETE, NEW STANDARD IS 403D−02.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	1.97	2.10	2.20	0.078	0.083	0.087
A1	0.05	0.10	0.15	0.002	0.004	0.006
b	1.27	1.45	1.63	0.050	0.057	0.064
c	0.15	0.28	0.41	0.006	0.011	0.016
D	2.29	2.60	2.92	0.090	0.103	0.115
E	4.06	4.32	4.57	0.160	0.170	0.180
H_E	4.83	5.21	5.59	0.190	0.205	0.220
L	0.76	1.14	1.52	0.030	0.045	0.060

STYLE 1:
PIN 1. CATHODE (POLARITY BAND)
2. ANODE

SOLDERING FOOTPRINT*



SCALE 8:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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