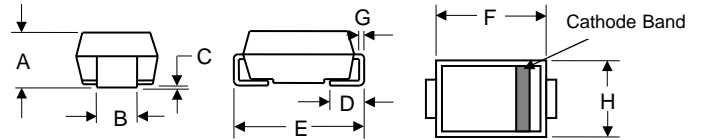


### Features

- \* Low Zener Impedance
- \* Low Regulation Factor
- \* VZ – tolerance:  $\pm 5\%$
- \* For Surface Mount Applications
- \* Epoxy meets UL 94 V-0 flammability rating
- \* Moisture Sensitivity Level 1

### Mechanical Data

- \* Case: DO-214AC Molded plastic
- \* Terminals: Solder plated
- \* Polarity: Indicated by cathode band
- \* Standard packaging: 12mm tape(ELA STD RS-481)



DIM	SMA			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.078	0.090	1.98	2.29
B	0.052	0.058	1.32	1.47
C	---	0.008	---	0.20
D	0.030	0.052	0.76	1.32
E	0.193	0.208	4.90	5.28
F	0.157	0.177	3.99	4.50
G	0.006	0.012	0.152	0.305
H	0.100	0.110	2.54	2.79



**RoHS**  
COMPLIANT



### Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

- \* Junction Temperature: 150°C
- \* Storage Temperature: -65°C to +175°C
- \* 1.5 Watt DC Power Dissipation (T<sub>L</sub>≤75°C)
- \* Thermal Resistance Junction to Lead: 50°C/W
- \* Thermal Resistance Junction to Ambient: 83°C/W
- \* Forward Voltage @ 200mA: 1.5 Volts

## Electrical Characteristics (TA=25°C unless otherwise noted)

PART NUMBER	ZENER VOLTAGE VZ (1)	TEST CURRENT IZT	MAXIMUM DYNAMIC IMPEDANCE ZZT @IZT	KNEE CURRENT IZK	KNEE IMPEDANCE ZZK	MAXIMUM REVERSE CURRENT IR	REVERSE VOLTAGE VR
	VOLTS	mA	OHMS	mA	OHMS	µA	VOLTS
1SMA5913B	3.3	113.6	10	1	500	100	1
1SMA5914B	3.6	104.2	9	1	500	75	1
1SMA5915B	3.9	96.1	7.5	1	500	25	1
1SMA5916B	4.3	87.2	6	1	500	5	1
1SMA5917B	4.7	79.8	5	1	500	5	1.5
1SMA5918B	5.1	73.5	4	1	350	5	2
1SMA5919B	5.6	66.9	2	1	250	5	3
1SMA5920B	6.2	60.5	2	1	200	5	4
1SMA5921B	6.8	55.1	2.5	1	200	5	5.2
1SMA5922B	7.5	50	3	0.5	400	5	6
1SMA5923B	8.2	45.7	3.5	0.5	400	5	6.5
1SMA5924B	9.1	41.2	4	0.25	500	5	7
1SMA5925B	10	37.5	4.5	0.25	500	5	8
1SMA5926B	11	34.1	5.5	0.25	550	1	8.4
1SMA5927B	12	31.2	6.5	0.25	550	1	9.1
1SMA5928B	13	28.8	7	0.25	550	1	9.9
1SMA5929B	15	25	9	0.25	600	1	11.4
1SMA5930B	16	23.4	10	0.25	600	1	12.2
1SMA5931B	18	20.8	12	0.25	650	1	13.7
1SMA5932B	20	18.7	14	0.25	650	1	15.2
1SMA5933B	22	17	17.5	0.25	650	1	16.7
1SMA5934B	24	15.6	19	0.25	700	1	18.2
1SMA5935B	27	13.9	23	0.25	700	1	20.6
1SMA5936B	30	12.5	28	0.25	750	1	22.8
1SMA5937B	33	11.4	33	0.25	800	1	25.1
1SMA5938B	36	10.4	38	0.25	850	1	27.4
1SMA5939B	39	9.6	45	0.25	900	1	29.7
1SMA5940B	43	8.7	53	0.25	950	1	32.7
1SMA5941B	47	8	67	0.25	1000	1	35.8
1SMA5942B	51	7.3	70	0.25	1100	1	38.8
1SMA5943B	56	6.7	86	0.25	1300	1	42.6
1SMA5944B	62	6	100	0.25	1500	1	47.1
1SMA5945B	68	5.5	120	0.25	1700	1	51.7
1SMA5946B	75	5	140	0.25	2000	1	56
1SMA5947B	82	4.6	160	0.25	2500	1	62.2
1SMA5948B	91	4.1	200	0.25	3000	1	69.2
1SMA5949B	100	3.7	250	0.25	3100	1	76
1SMA5950B	110	3.4	300	0.25	4000	1	83.6
1SMA5951B	120	3.1	380	0.25	4500	1	91.2
1SMA5952B	130	2.9	450	0.25	5000	1	98.8
1SMA5953B	150	2.5	600	0.25	6000	1	114
1SMA5954B	160	2.3	700	0.25	6500	1	121.6
1SMA5955B	180	2.1	900	0.25	7000	1	136.8
1SMA5956B	200	1.9	1200	0.25	8000	1	152

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature(TL) at 30 , 9.5mm(3/8) from the diode body.

## Ratings and Characteristic Curves

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 @ $V_R$
$V_R$	Breakdown voltage
$I_F$	Forward current
$V_F$	Forward voltage @ $I_F$

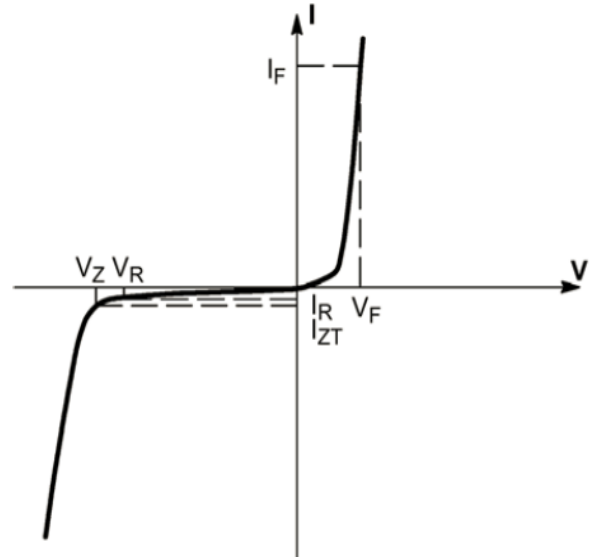


Figure 1. Zener voltage regulator

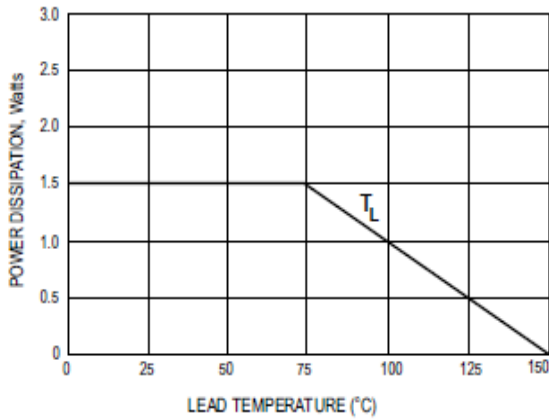


Figure 2. Steady state power derating

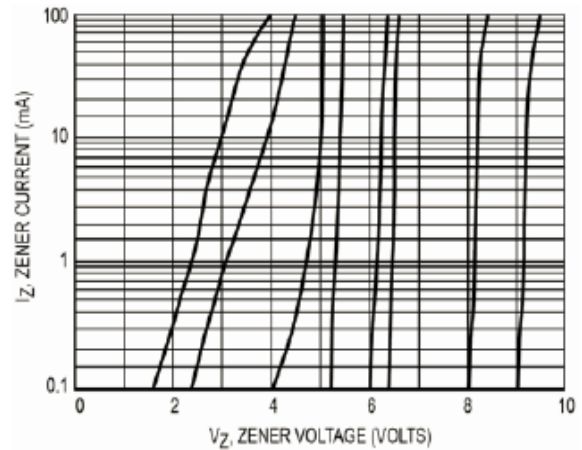


Figure 3.  $V_Z$  - 3.3 thru 10 volts

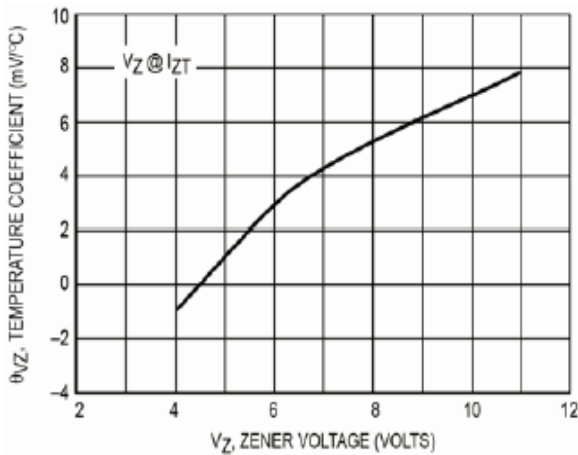


Figure 4. Zener voltage - 3.3 to 12 volts

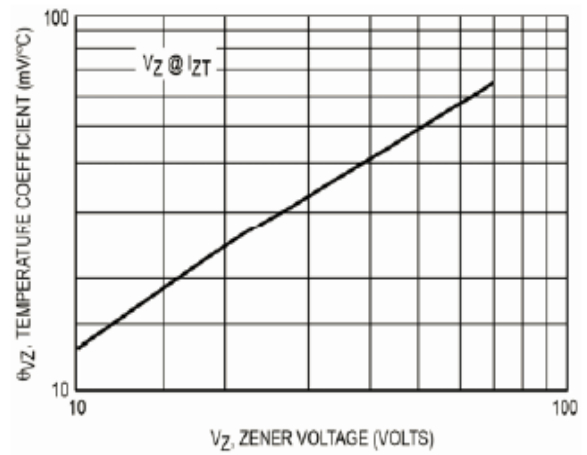


Figure 5. Zener voltage - 14 to 43 volts

### Ratings and Characteristic Curves

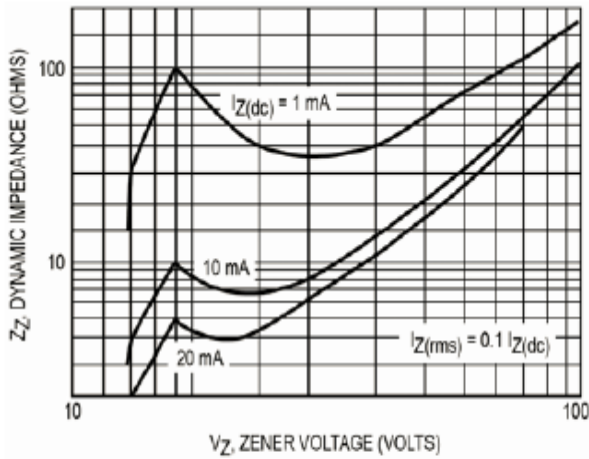


Figure 6. Effect of zener voltage

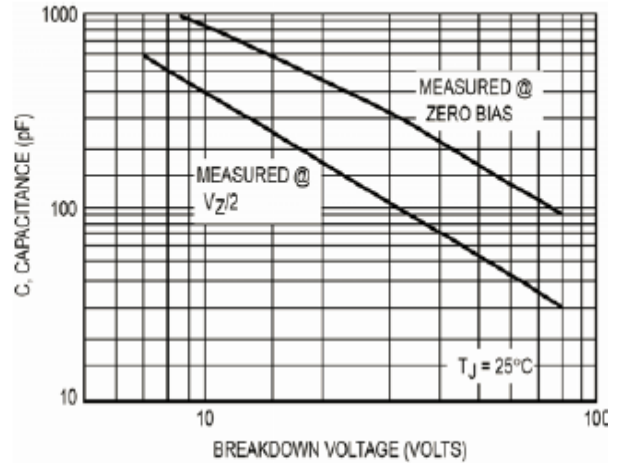


Figure 7. Capacitance curve

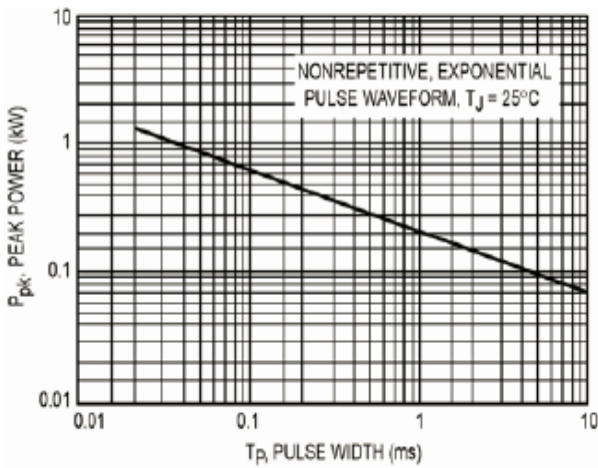


Figure 8. Typical pulse rating curve

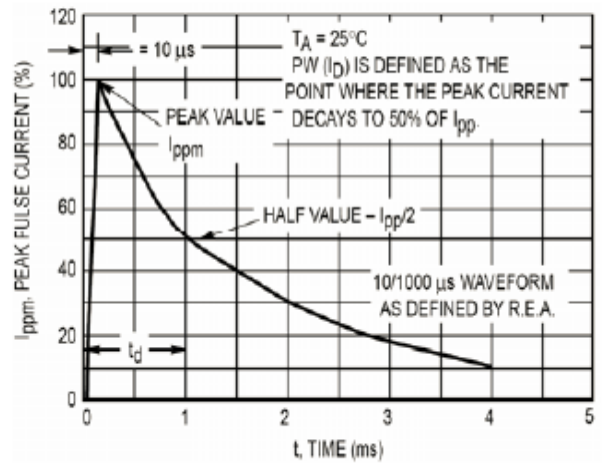


Figure 9. Pulse waveform

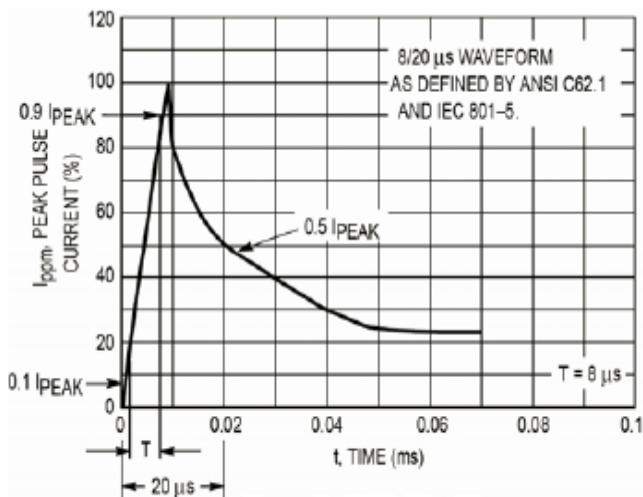


Figure 10. Pulse waveform



# 1SMA5913B THRU 1SMA5956B

1.5 Watt Zener Diode 3.3 to 200 Volts

## Ordering Information

Part No.	Package	Packing Code	Packing
1SMA5913B THRU 1SMA5956B	SMA	R50	5000pcs/Reel

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