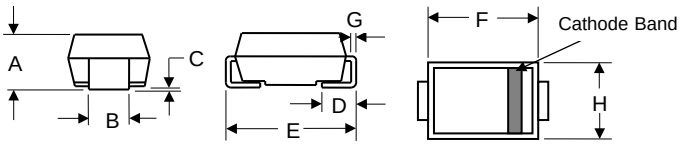
1SMA5913B THRU 1SMA5956B

1.5 Watt Zener Diode 3.3 to 200 Volts

Features

* Low Zener Impedance
* Low Regulation Factor
* VZ – tolerance: ±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)

RoHS COMPLIANT

SMA				
DIM	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

Maximum Ratings (T_A=25℃ unless otherwise noted)

* Junction Temperature: 150℃
* Storage Temperature: -65℃ to +175℃
* 1.5 Watt DC Power Dissipation (T_L≤75℃)
* Thermal Resistance Junction to Lead: 50℃/W
* Thermal Resistance Junction to Ambient: 83℃/W
* Forward Voltage @ 200mA: 1.5 Volts

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Electrical Characteristics (T_A=25℃ 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
Vz	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

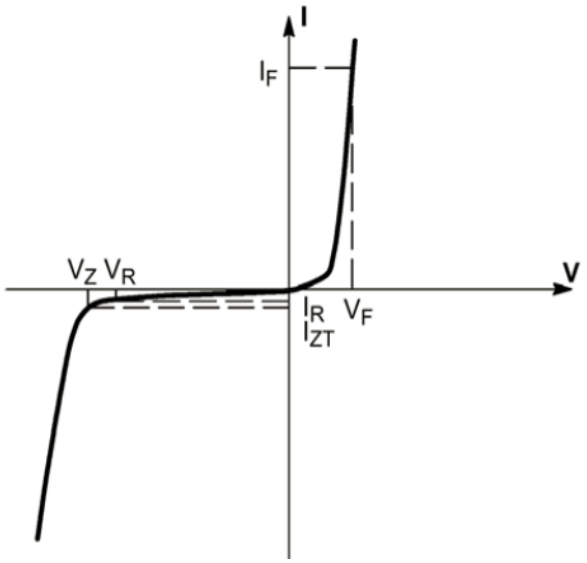

Figure 1. Zener voltage regulator

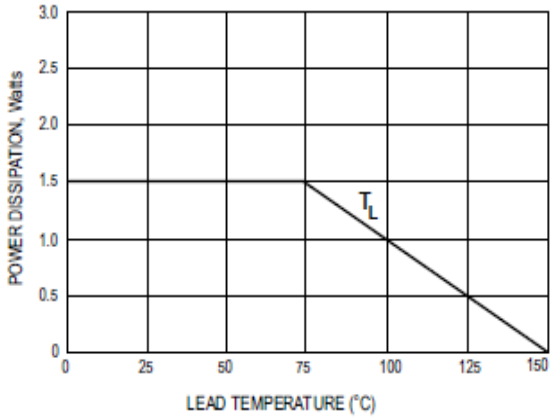

Figure 2. Steady state power derating

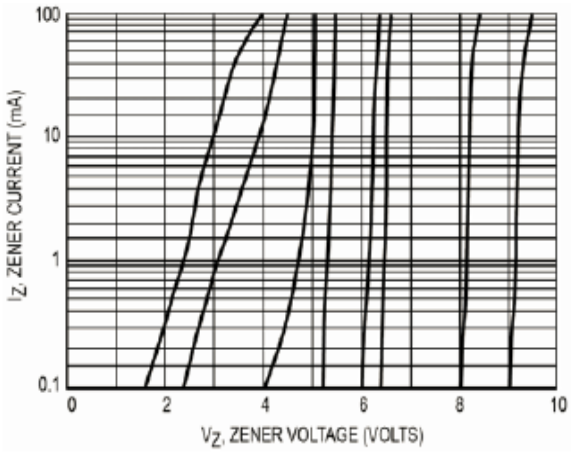

Figure 3. Vz – 3.3 thru 10 volts

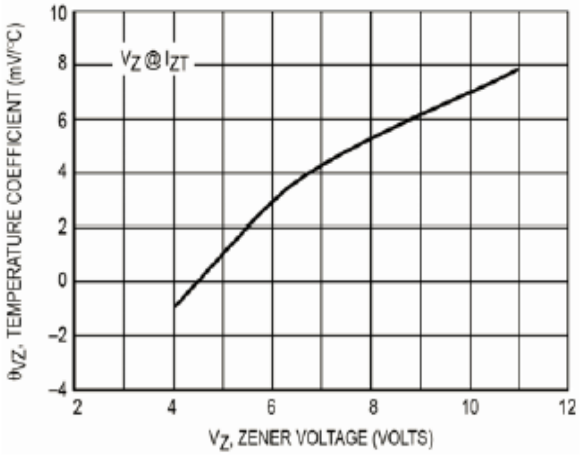

Figure 4. Zener voltage – 3.3 to 12 volts

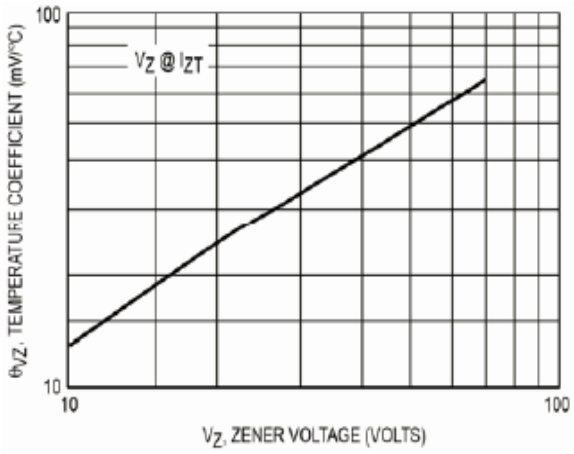

Figure 5. Zener voltage – 14 to 43 volts

Ratings and Characteristic Curves

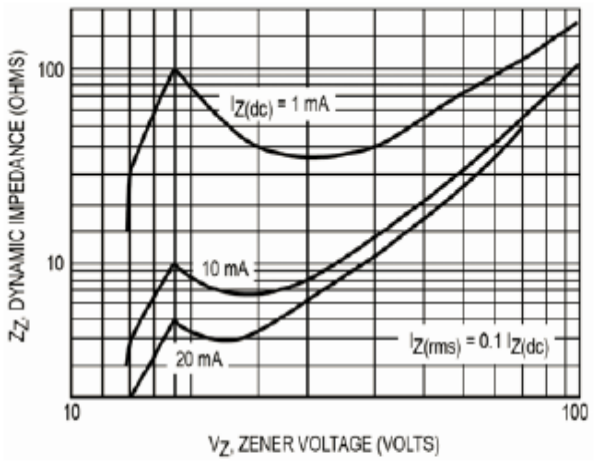

Figure 6. Effect of zener voltage

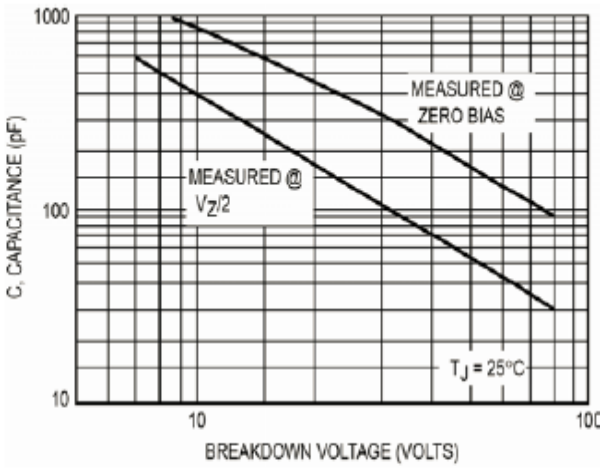

Figure 7. Capacitance curve

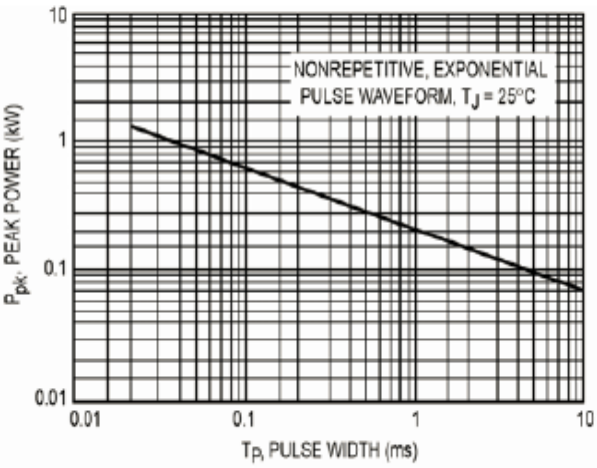

Figure 8. Typical pulse rating curve

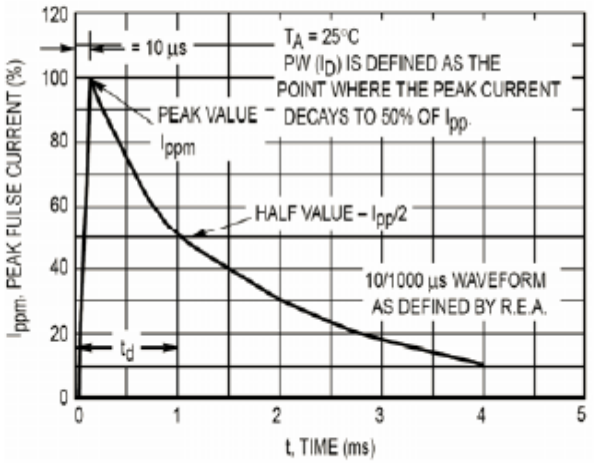

Figure 9. Pulse waveform

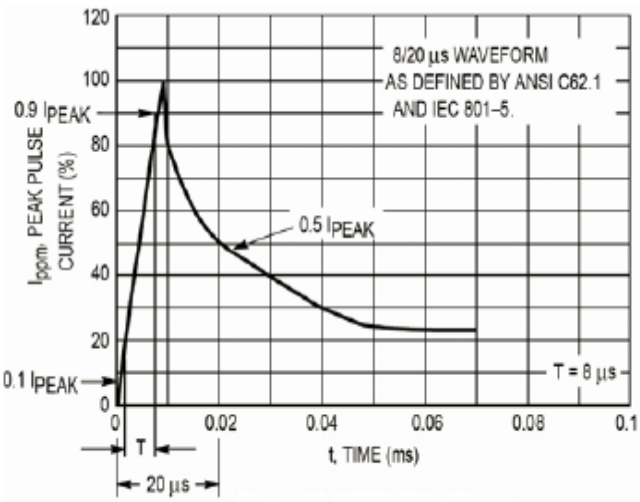

Figure 10. Pulse waveform

Ordering Information

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

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