



# 1SMAZ5920 thru 1SMAZ5956

Surface Mount Zener Diodes

Vz Range:6.2 to 200V Power Dissipation:1.5W

## Features

- Total power dissipation: max, 1.5W
- For use in stabilizing and clipping circuits with high power rating
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s



DO-214AC(SMA)

## TYPICAL APPLICATIONS

- Protection from high voltage, high energy transients

## Mechanical Data

- Case: DO-214AC, molded epoxy body, Epoxy meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002 and JESD22B-106
- Polarity: Indicated by cathode band

## MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

(Rating at 25 °C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Zener current		See Next Table	
Power dissipation at $T_L=75$	$P_{tot}$	1.5	W
Junction temperature	$T_j$	150	
Storage temperature range	$T_s$	-55to+150	

## Electrical Characteristics

( $T_A=25$  °C unless otherwise noted)

Type number	Device marking code	Nominal zener voltage at $I_{ZT}$ $V_z$ (Volts) <sup>(1)</sup>	Test current $I_{ZT}$ (mA)	Maximum zener impedance <sup>(2)</sup>			Maximum reverse leakage current		Maximum regulator $I_{ZM}$ (mA)
				$Z_{ZT}$ at $I_{ZT}$	$Z_{ZK}$ ( )	At $I_{ZK}$	$I_R$ ( $\mu$ A)	at $V_R$ (Volts)	
1SMAZ5920	5920	6.2	60.5	2	200	1	5	4	242
1SMAZ5921	5921	6.8	55.1	2.5	200	1	5	5.2	221
1SMAZ5922	5922	7.5	50	3	400	0.5	5	6	200
1SMAZ5923	5923	8.2	45.7	3.5	400	0.5	5	6.5	183
1SMAZ5924	5924	9.1	41.2	4	500	0.5	5	7	165
1SMAZ5925	5925	10	37.5	4.5	500	0.25	5	8	150
1SMAZ5926	5926	11	34.1	5.5	550	0.25	1	8.4	136
1SMAZ5927	5927	12	31.2	6.5	550	0.25	1	9.1	125
1SMAZ5928	5928	13	28.8	7	550	0.25	1	9.9	115



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(TA=25 unless otherwise noted)

1SMAZ5929	5929	15	25	9	600	0.25	1	11.4	100
1SMAZ5930	5930	16	23.4	10	600	0.25	1	12.2	94
1SMAZ5931	5931	18	20.8	12	650	0.25	1	13.7	83
1SMAZ5932	5932	20	18.7	14	650	0.25	1	15.2	75
1SMAZ5933	5933	22	17	17.5	650	0.25	1	16.7	68
1SMAZ5934	5934	24	15.6	19	700	0.25	1	18.2	63
1SMAZ5935	5935	27	13.9	23	700	0.25	1	20.6	56
1SMAZ5936	5936	30	12.5	26	750	0.25	1	22.8	50
1SMAZ5937	5937	33	11.4	33	800	0.25	1	25.1	45
1SMAZ5938	5938	36	10.4	38	850	0.25	1	27.4	42
1SMAZ5939	5939	39	9.6	45	900	0.25	1	29.7	38
1SMAZ5940	5940	43	8.7	53	950	0.25	1	32.7	35
1SMAZ5941	5941	47	8	67	1000	0.25	1	35.8	32
1SMAZ5942	5942	51	7.3	70	1100	0.25	1	38.8	29
1SMAZ5943	5943	56	6.7	86	1300	0.25	1	42.6	27
1SMAZ5944	5944	62	6	100	1500	0.25	1	47.1	24
1SMAZ5945	5945	68	5.5	120	1700	0.25	1	51.7	22
1SMAZ5946	5946	75	5	140	2000	0.25	1	56	20
1SMAZ5947	5947	82	4.6	160	2500	0.25	1	62.2	18
1SMAZ5948	5948	91	4.1	200	3000	0.25	1	69.2	16
1SMAZ5949	5949	100	3.7	250	3100	0.25	1	76	15
1SMAZ5950	5950	110	3.4	300	4000	0.25	1	83.6	13
1SMAZ5951	5951	120	3.1	380	4500	0.25	1	91.2	12
1SMAZ5952	5952	130	2.9	450	5000	0.25	1	98.8	11
1SMAZ5953	5953	150	2.5	600	6000	0.25	1	114	10
1SMAZ5954	5954	160	2.3	700	6500	0.25	1	121.6	9
1SMAZ5955	5955	180	2.1	900	7000	0.25	1	136.8	8
1SMAZ5956	5956	200	1.9	1200	8000	0.25	1	152	7

Notes: (1). Measured under thermal equilibrium and DC test conditions , Standard voltage tolerance is 10%,suffix B  $\pm 5\%$

(2).The Zener impedance is derived from the 1KHZ AC voltage which results when an AC current having an RMS value equal to 10 Zener current (IZT or IZK) is superimposed on IZT or IZK. Zener impedance is measure at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units

(3).Valid provided that electrodes at a distance of 10 mm from case are kept at ambient temperature

## RATINGS AND CHARACTERISTICS CURVES

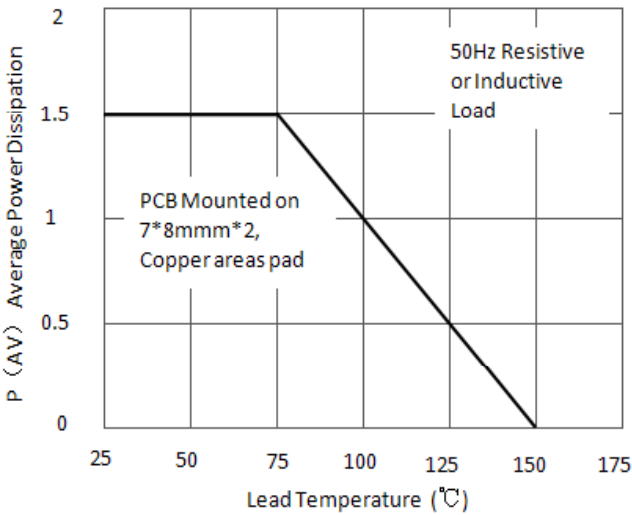


Fig.1 Maximum Continuous Power Dissipation

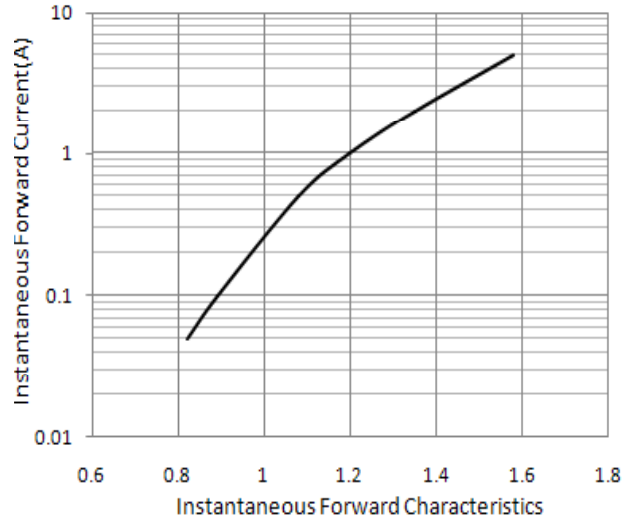


Fig.2 Typical Instantaneous Forward Characteristics

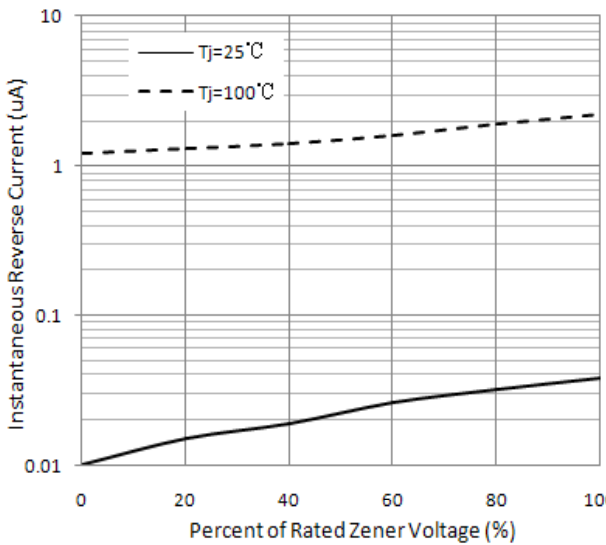


Fig.3 Typical Reverse Characteristics

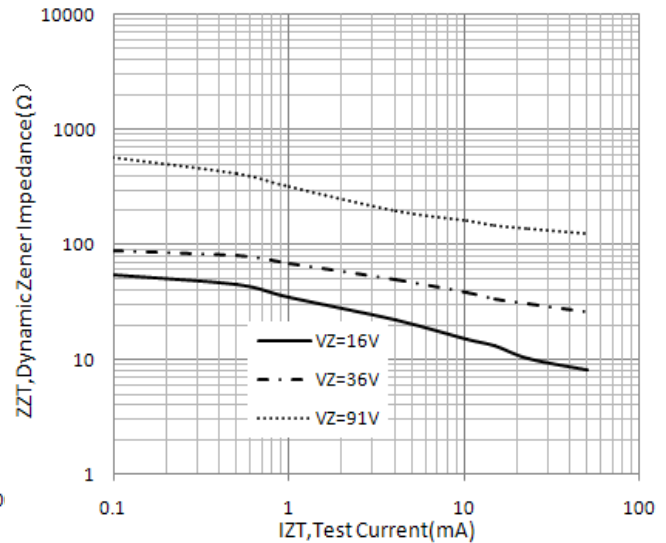


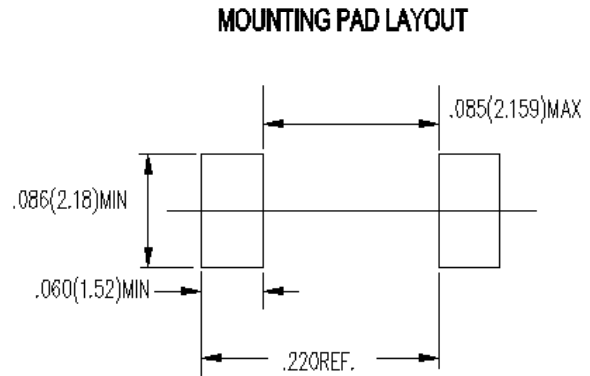
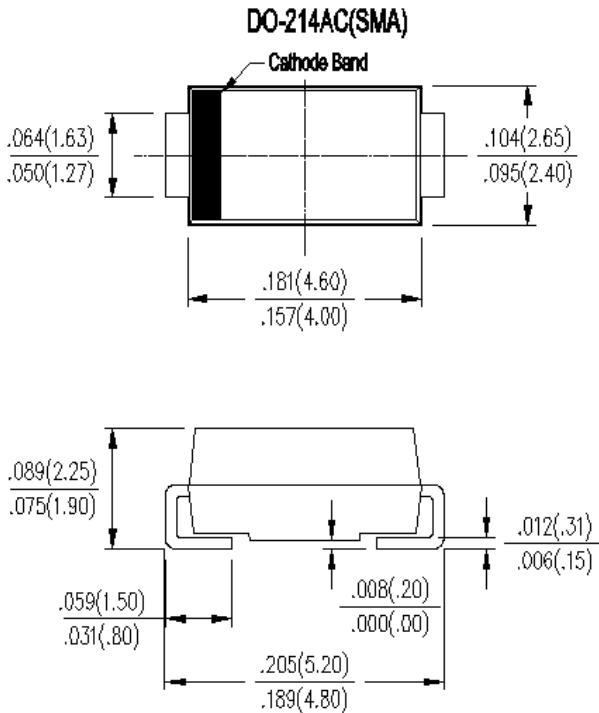
Fig.4 Typical Zener Impedance

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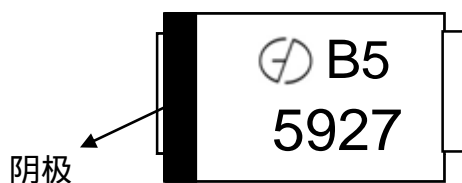
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## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



## MARKING



B5为产品生产日期码  
5927：为1SMAZ5927产品印字代码，详见各产品印字代码

## 产品日期码

年份的表示：												
年份	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
代码	9	A	B	C	D	E	F	G	H	J	K	0
月份的表示：												
月份	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
代码	1	2	3	4	5	6	7	8	9	O	N	D