

1SMAZ59xx Series

Surface Mount Zener Diodes

Vz Range: 10 to 200V Power Dissipation: 1.5W

Features

- Total power dissipation: 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, 10s



Package:
DO-214AC (SMA)



RoHS
COMPLIANT

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

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Zener current		See Next Table	
Power Dissipation @ T _L =75°C	P _{TOT}	1.5	W
Junction Temperature	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Type Number	Device Marking Code	Nominal Zener Voltage@ I _{ZT} V _Z (V) ¹	Test Current I _{ZT} (mA)	Maximum Zener Impedance ²			Maximum Reverse Leakage Current		Maximum Regulator ³ I _{ZM} (mA)
				Z _{ZT} @I _{ZK} (Ω)	Z _{ZK} (Ω)	@I _{ZK} (mA)	I _R (uA)	@V _R (V)	
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
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 for ±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 (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. 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

Typical Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

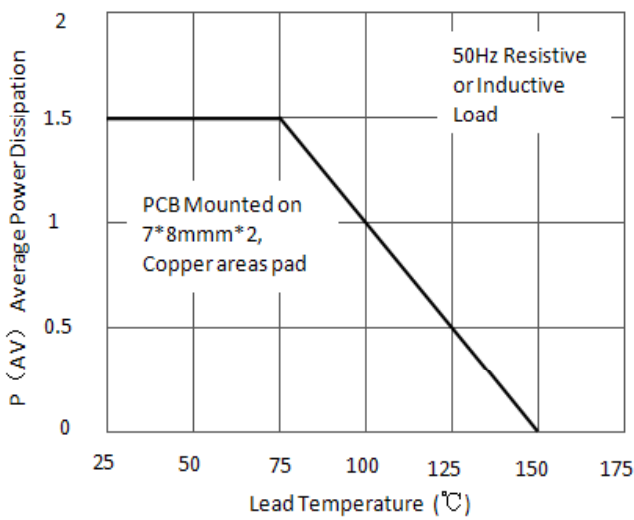


Fig.1 Maximum Continuous Power Dissipation

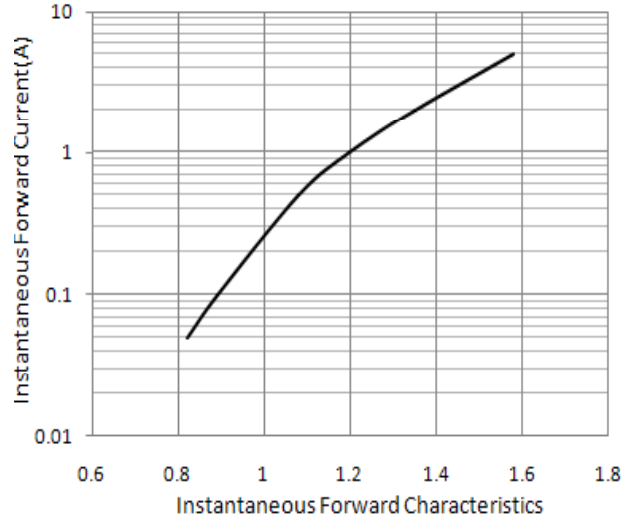


Fig.2 Typical Instantaneous Forward Characteristics

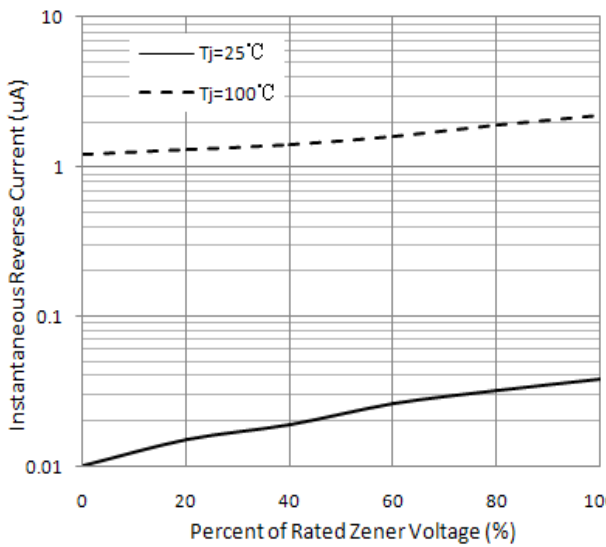


Fig.3 Typical Reverse Characteristics

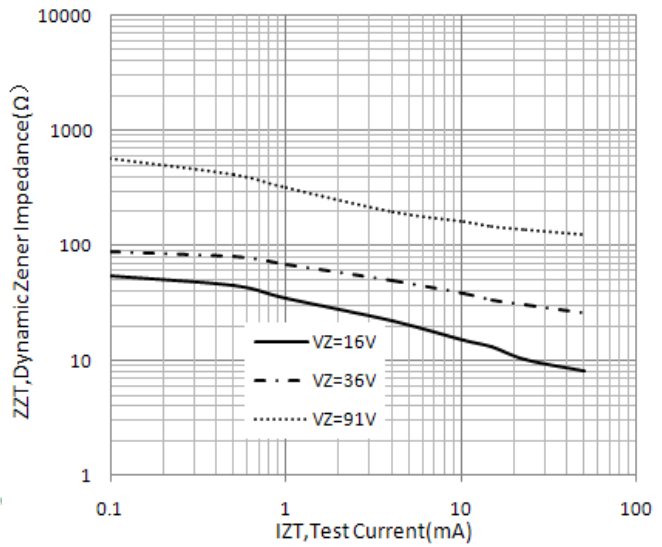


Fig.4 Typical Zener Impedance

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Package Outline Dimensions DO-214AC (SMA)

