



Surface Mount Zener Diodes

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

Features

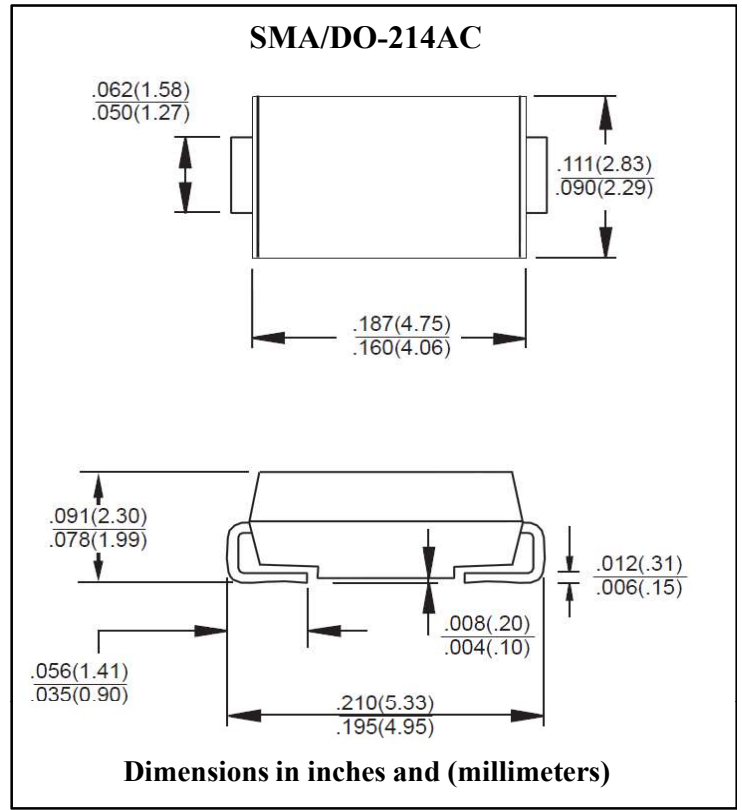
- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0

Mechanical Data

- Case : DO-201AC Molded epoxy body
- Terminals : Matte tin plated leads, solderable per J-STD-002 and JESD22B-106
- Polarity : Indicated by cathode band
- Weight : approx. 0.064gram

Typical Applications

- Protection from high voltage, high energy transients



Maximum Ratings and Electrical Characteristics

Rating an 25°C ambient temperature unless otherwise specified

Parameter	Symbol	Rated Value	Unit
Zener Current (See Table "Characteristics")			
Peak Power Dissipation at T _L =75°C	P _D	1.5	Watts
Maximum Junction Temperature	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C



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

Type	Device Marking	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		V _Z @I _{ZT}	I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R @V _R		I _{ZM}
		(V)	(mA)	(Ω)	(Ω)	(mA)	(uA)	(V)	(mA)
1SMA5920	5920	6.2	60.5	2.0	200	1.00	5.0	4.0	242
1SMA5921	5921	6.8	55.1	2.5	200	1.00	5.0	5.2	221
1SMA5922	5922	7.5	50.0	3.0	400	0.50	5.0	6.0	200
1SMA5923	5923	8.2	45.7	3.5	400	0.50	5.0	6.5	183
1SMA5924	5924	9.1	41.2	4.0	500	0.50	5.0	7.0	165
1SMA5925	5925	10	37.5	4.5	500	0.25	5.0	8.0	150
1SMA5926	5926	11	34.1	5.5	550	0.25	1.0	8.4	136
1SMA5927	5927	12	31.2	6.5	550	0.25	1.0	9.1	125
1SMA5928	5928	13	28.8	7.0	550	0.25	1.0	9.9	115
1SMA5929	5929	15	25.0	9.0	600	0.25	1.0	11.4	100
1SMA5930	5930	16	23.4	10	600	0.25	1.0	12.2	94
1SMA5931	5931	18	20.8	12	650	0.25	1.0	13.7	83
1SMA5932	5932	20	18.7	14	650	0.25	1.0	15.2	75
1SMA5933	5933	22	17.0	18	650	0.25	1.0	16.7	68
1SMA5934	5934	24	15.6	19	700	0.25	1.0	18.2	63
1SMA5935	5935	27	13.9	23	700	0.25	1.0	20.6	56
1SMA5936	5936	30	12.5	26	750	0.25	1.0	22.8	50
1SMA5937	5937	33	11.4	33	800	0.25	1.0	25.1	45
1SMA5938	5938	36	10.4	38	850	0.25	1.0	27.4	42
1SMA5939	5939	39	9.6	45	900	0.25	1.0	29.7	38
1SMA5940	5940	43	8.7	53	950	0.25	1.0	32.7	35
1SMA5941	5941	47	8.0	67	1000	0.25	1.0	35.8	32
1SMA5942	5942	51	7.3	70	1100	0.25	1.0	38.8	29
1SMA5943	5943	56	6.7	86	1300	0.25	1.0	42.6	27
1SMA5944	5944	62	6.0	100	1500	0.25	1.0	47.1	24
1SMA5945	5945	68	5.5	120	1700	0.25	1.0	51.7	22
1SMA5946	5946	75	5.0	140	2000	0.25	1.0	56.0	20
1SMA5947	5947	82	4.6	160	2500	0.25	1.0	62.2	18
1SMA5948	5948	91	4.1	200	3000	0.25	1.0	69.2	16
1SMA5949	5949	100	3.7	250	3100	0.25	1.0	76.0	15
1SMA5950	5950	110	3.4	300	4000	0.25	1.0	83.6	13
1SMA5951	5951	120	3.1	380	4500	0.25	1.0	91.2	12
1SMA5952	5952	130	2.9	450	5000	0.25	1.0	98.8	11
1SMA5953	5953	150	2.5	600	6000	0.25	1.0	114.0	10
1SMA5954	5954	160	2.3	700	6500	0.25	1.0	121.6	9
1SMA5955	5955	180	2.1	900	7000	0.25	1.0	136.8	8
1SMA5956	5956	200	1.9	1200	8000	0.25	1.0	152.0	7

- Notes 1. Measured under thermal equilibrium and DC test conditions , Standard voltage tolerance is 10%,suffix B±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



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

Fig.1 Maximum Continuous Power Derating

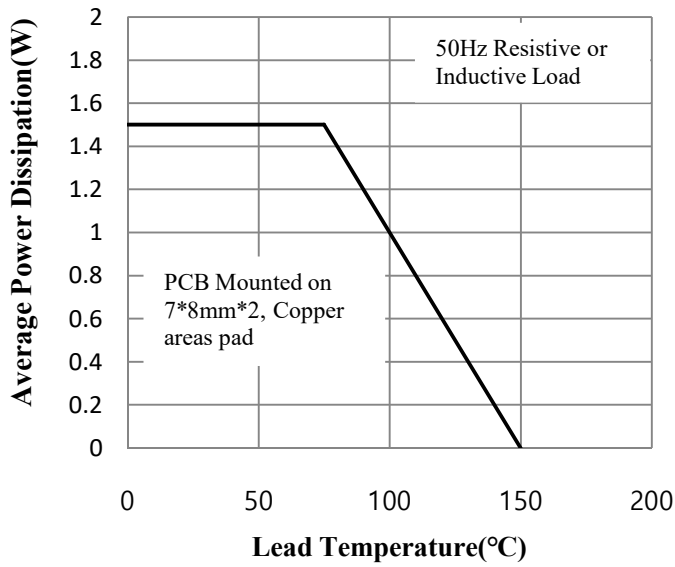


Fig. 2 Typical Instantaneous Forward Characteristics

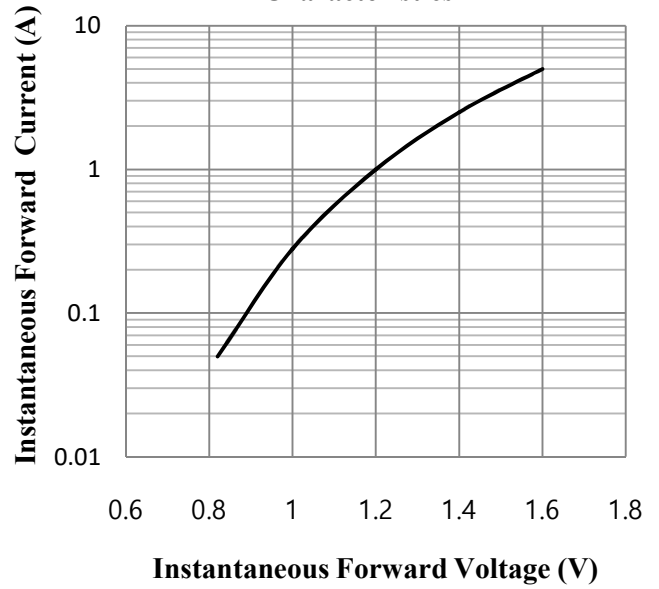


Fig. 3 Typical Reverse Characteristics

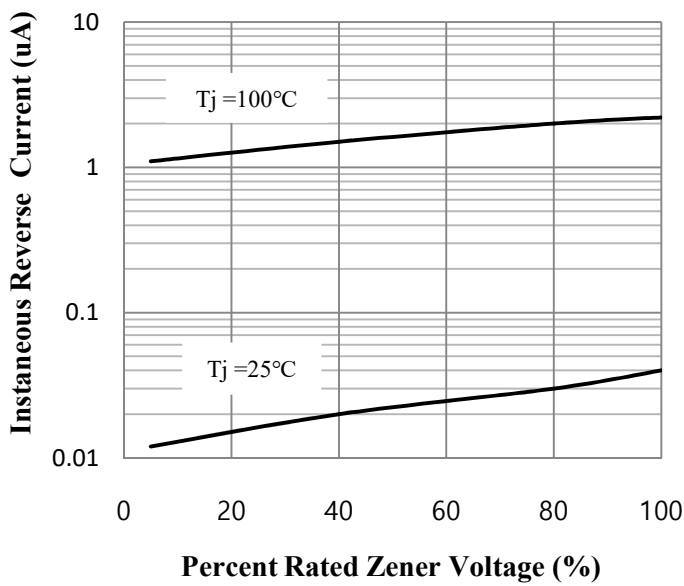


Fig. 4 Typical Zener Impedance

