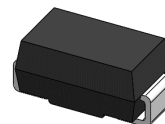


1.5W,3.3 - 200V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Zener voltage tolerance is $\pm 5\%$
- Total power dissipation: Max 1.5W
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition



SMA(DO-214AC)

Applications

Protection from high voltage, high energy transients, voltage stabilization.

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Zener voltage	V_Z	See Next Table	V
Power dissipation at $T_L=75^\circ\text{C}$	P_{tot}	1.5	W
Maximum instantaneous forward voltage at 200mA	V_F	1.2	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Thermal-Mechanical Specifications ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Ambient	R_{thJA}	90	$^\circ\text{C} / \text{W}$
Thermal Resistance, Junction to Case	R_{thJC}	20	$^\circ\text{C} / \text{W}$
Thermal Resistance, Junction to Lead	R_{thJL}	25	$^\circ\text{C} / \text{W}$

Note:

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 5×5mm copper pads

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

Part Number	Marking	V _Z at I _{ZT} (V)			I _{ZT} (mA)	Maximum zener impedance		I _{ZK} (mA)	Maximum reverse leakage at V _R (μA)	Test voltage V _R (V)	Maximum Zener Current
		Min	Typ	Max		Z _{ZT} at I _{ZT} (Ω)	Z _{ZK} at I _{ZK} (Ω)				I _{ZM} (mA)
1SMAZ5913	5913	3.14	3.3	3.47	113.6	10	500	1.0	100	1.0	455
1SMAZ5914	5914	3.42	3.6	3.78	104.2	9	500	1.0	100	1.0	417
1SMAZ5915	5915	3.71	3.9	4.10	96.1	7.5	500	1.0	50	1.0	385
1SMAZ5916	5916	4.09	4.3	4.52	87.2	6	500	1.0	10	1.0	349
1SMAZ5917	5917	4.47	4.7	4.94	79.8	5	500	1.0	10	1.5	319
1SMAZ5918	5918	4.85	5.1	5.36	73.5	4	350	1.0	10	2	294
1SMAZ5919	5919	5.32	5.6	5.88	66.9	2	250	1.0	10	3	268
1SMAZ5920	5920	5.89	6.2	6.51	60.5	2	200	1.0	10	4	242
1SMAZ5921	5921	6.46	6.8	7.14	55.1	2.5	200	1.0	10	5.2	221
1SMAZ5922	5922	7.13	7.5	7.88	50.0	3	400	0.5	10	6	200
1SMAZ5923	5923	7.79	8.2	8.61	45.7	3.5	400	0.5	5	6.5	183
1SMAZ5924	5924	8.65	9.1	9.56	41.2	4	500	0.5	5	7.0	165
1SMAZ5925	5925	9.50	10	10.50	37.5	4.5	500	0.25	5	8.0	150
1SMAZ5926	5926	10.45	11	11.55	34.1	5.5	550	0.25	1	8.4	136
1SMAZ5927	5927	11.40	12	12.60	31.2	6.5	550	0.25	1	9.1	125
1SMAZ5928	5928	12.35	13	13.65	28.8	7	550	0.25	1	9.9	115
1SMAZ5929	5929	14.25	15	15.75	25.0	9	600	0.25	1	11.4	100
1SMAZ5930	5930	15.20	16	16.80	23.4	10	600	0.25	1	12.2	94
1SMAZ5931	5931	17.10	18	18.90	20.8	12	650	0.25	1	13.7	83
1SMAZ5932	5932	19.00	20	21.00	18.7	14	650	0.25	1	15.2	75
1SMAZ5933	5933	20.90	22	23.10	17.0	17.5	650	0.25	1	16.7	68
1SMAZ5934	5934	22.80	24	25.20	15.6	19	700	0.25	1	18.2	63
1SMAZ5935	5935	25.65	27	28.35	13.9	23	700	0.25	1	20.6	56
1SMAZ5936	5936	28.50	30	31.50	12.5	26	750	0.25	1	22.8	50
1SMAZ5937	5937	31.35	33	34.65	11.4	33	800	0.25	1	25.1	45
1SMAZ5938	5938	34.20	36	37.80	10.4	38	850	0.25	1	27.4	42
1SMAZ5939	5939	37.05	39	40.95	9.6	45	900	0.25	1	29.7	38
1SMAZ5940	5940	40.85	43	45.15	8.7	53	950	0.25	1	32.7	35
1SMAZ5941	5941	44.65	47	49.35	8.0	67	1000	0.25	1	35.8	32
1SMAZ5942	5942	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
1SMAZ5943	5943	53.20	56	58.80	6.7	86	1300	0.25	1	42.6	27
1SMAZ5944	5944	58.90	62	65.10	6.0	100	1500	0.25	1	47.1	24
1SMAZ5945	5945	64.60	68	71.40	5.5	120	1700	0.25	1	51.7	22
1SMAZ5946	5946	71.25	75	78.75	5.0	140	2000	0.25	1	56.0	20
1SMAZ5947	5947	77.90	82	86.10	4.6	160	2500	0.25	1	62.2	28
1SMAZ5948	5948	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	16
1SMAZ5949	5949	95.0	100	105.0	3.7	250	3100	0.25	1	76.0	15

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

Part Number	Marking	V _Z at I _{ZT} (V)			I _{ZT} (mA)	Maximum zener impedance		I _{ZK} (mA)	Maximum reverse leakage at V _R (μA)	Test voltage V _R (V)	Maximum Zener Current
		Min	Typ	Max		Z _{ZT} at I _{ZT} (Ω)	Z _{ZK} at I _{ZK} (Ω)				I _{ZM} (mA)
1SMAZ5950	5950	104.5	110	115.5	3.4	300	4000	0.25	1	83.6	13
1SMAZ5951	5951	114.0	120	126.0	3.1	380	4500	0.25	1	91.2	12
1SMAZ5952	5952	123.5	130	136.5	2.9	450	5000	0.25	1	98.8	11
1SMAZ5953	5953	142.5	150	157.5	2.5	600	6000	0.25	1	114.0	10
1SMAZ5954	5954	152.0	160	168.0	2.3	700	6500	0.25	1	121.6	9
1SMAZ5955	5955	171.0	180	189.0	2.1	900	7000	0.25	1	136.8	8
1SMAZ5956	5956	190.0	200	210.0	1.9	1200	8000	0.25	1	152.0	7

Ratings and Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise note)

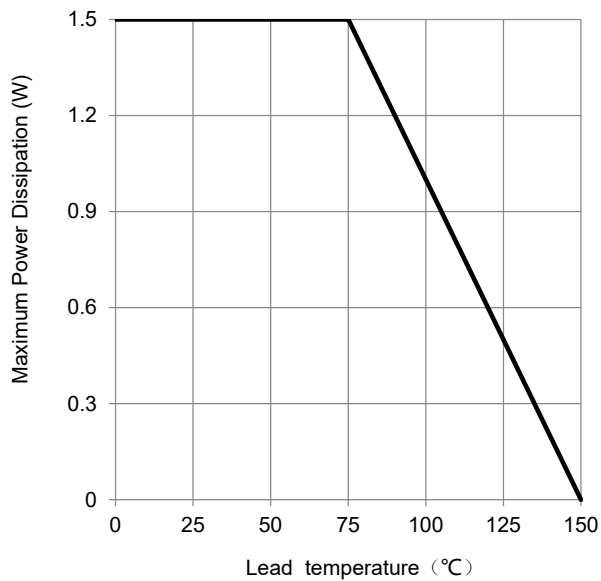


Fig.1 – Power Derating Curve

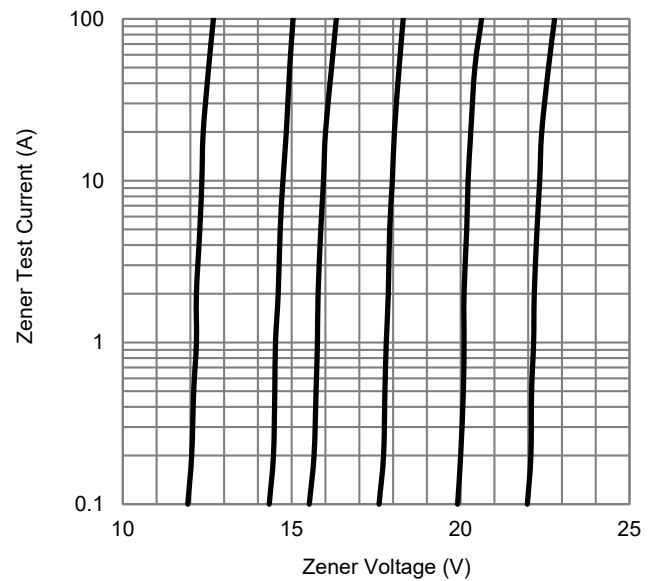


Fig.2 – Typical Zener Voltage

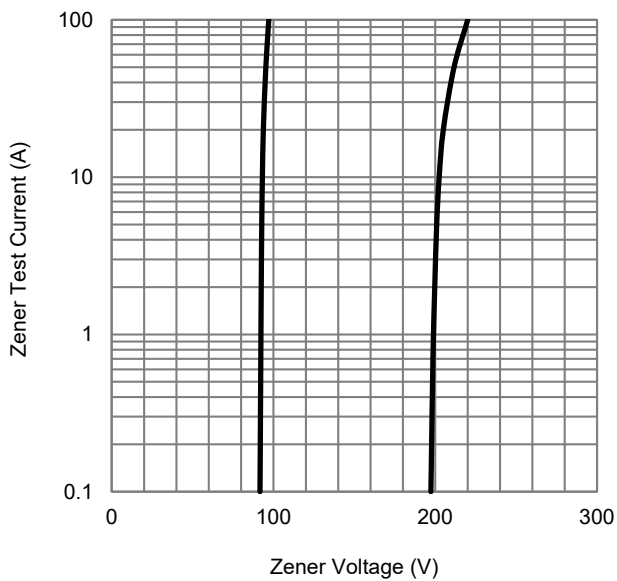
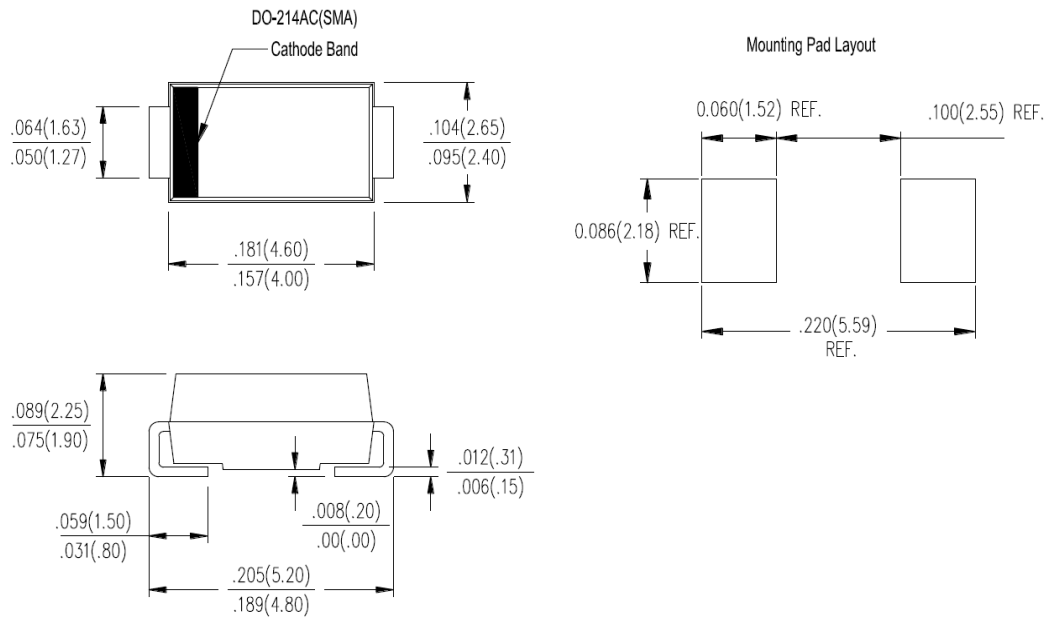


Fig.3 – Typical Zener Voltage

Package Outline Dimensions

in inches (millimeters)

SMA (DO-214AC)



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