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SMAJ5913A - SMAJ5956A

SURFACE MOUNT SILICON ZENER DIODES

V_Z : 3.3 - 200 Volts
P_D : 3.0 Watts

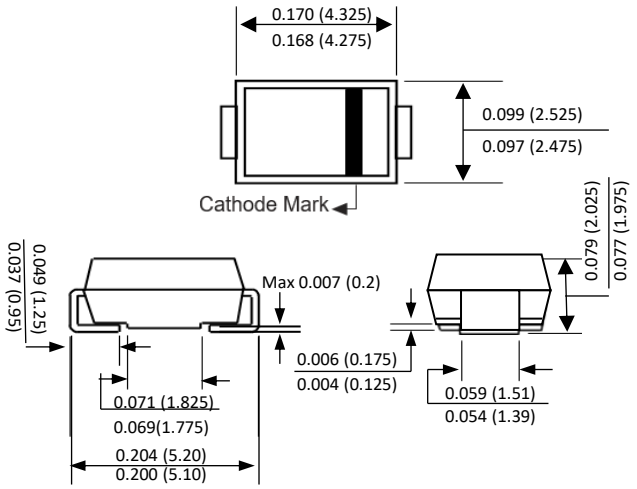
FEATURES :

* Complete Voltage Range 3.3 to 200 Volts
* High peak reverse power dissipation
* High reliability
* Low leakage current
* Pb / RoHS Free

MECHANICAL DATA

* Case : SMA Molded plastic
* Epoxy : UL94V-0 rate flame retardant
* Lead : Lead Formed for Surface Mount
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.064 grams

SMA (DO-214AC)



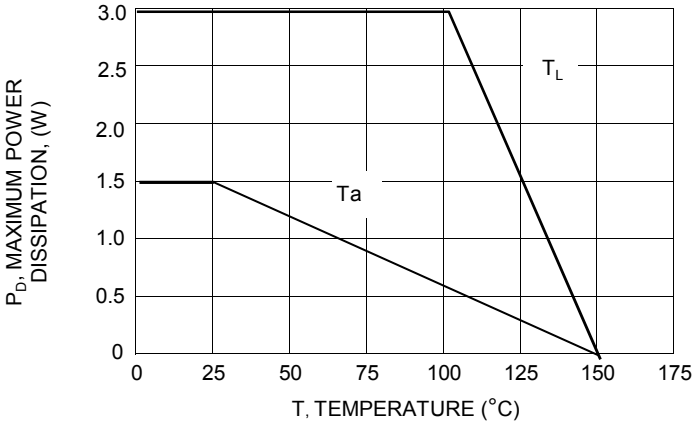
Dimensions in inches and (millimeters)

MAXIMUM RATINGS (Ta = 25 °C)

Rating	Symbol	Value	Unit
Power Dissipation @ Ta = 25 °C	P_D	3.0	W
Syeady-State Power at $T_L \le 105$ °C or at Ta = 25 °C (Note 1)	P_D	3.0 1.56	W
Maximum Forward Voltage at I_F = 200 mA	V_F	1.2	V
Thermal Resistance Junction to Ambient (Note 1)	$R_{\Theta JA}$	80	°C/W
Thermal Resistance Junction to Lead (Note 1)	$R_{\Theta JL}$	15	°C/W
Operating Junction and Storang Temperature Range	T_J, T_{STG}	- 65 to + 150	°C

Note : (1) when mounted on FR4 PC board (1 oz Cu) with recommended footprint)

Fig. 1 POWER TEMPERATURE DERATING CURVE



ELECTRICAL CHARACTERISTICS (T_L = 30 °C)

Type No.	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)	(μA)	(V)	(mA)
SMAJ5913A	3.3	113.6	10.0	500	1.00	100	1.0	908
SMAJ5914A	3.6	104.2	9.0	500	1.00	75	1.0	832
SMAJ5915A	3.9	96.1	7.5	500	1.00	25	1.0	768
SMAJ5916A	4.3	87.2	6.0	500	1.00	5.0	1.0	696
SMAJ5917A	4.7	79.8	5.0	500	1.00	5.0	1.5	638
SMAJ5918A	5.1	73.5	4.0	400	1.00	5.0	2.0	588
SMAJ5919A	5.6	66.9	2.0	300	1.00	5.0	3.0	534
SMAJ5920A	6.2	60.5	2.0	200	1.00	5.0	4.0	482
SMAJ5921A	6.8	55.1	2.5	200	1.00	5.0	5.2	440
SMAJ5922A	7.5	50.0	3.0	400	0.50	5.0	6.0	400
SMAJ5923A	8.2	45.7	3.5	400	0.50	5.0	6.5	364
SMAJ5924A	9.1	41.2	4.0	500	0.50	5.0	7.0	328
SMAJ5925A	10	37.5	4.5	500	0.25	5.0	8.0	300
SMAJ5926A	11	34.1	5.5	550	0.25	1.0	8.4	272
SMAJ5927A	12	31.2	6.5	550	0.25	1.0	9.1	250
SMAJ5928A	13	28.8	7.0	550	0.25	1.0	9.9	230
SMAJ5929A	15	25.0	9.0	600	0.25	1.0	11.4	200
SMAJ5930A	16	23.4	10	600	0.25	1.0	12.2	186
SMAJ5931A	18	20.8	12	650	0.25	1.0	13.7	166
SMAJ5932A	20	18.7	14	650	0.25	1.0	15.2	150
SMAJ5933A	22	17.0	17.5	650	0.25	1.0	16.7	136
SMAJ5934A	24	15.6	19	700	0.25	1.0	18.2	124
SMAJ5935A	27	13.9	23	700	0.25	1.0	20.6	110
SMAJ5936A	30	12.5	28	750	0.25	1.0	22.8	100
SMAJ5937A	33	11.4	33	800	0.25	1.0	25.1	90
SMAJ5938A	36	10.4	38	850	0.25	1.0	27.4	82
SMAJ5939A	39	9.6	45	900	0.25	1.0	29.7	76
SMAJ5940A	43	8.7	53	950	0.25	1.0	32.7	68
SMAJ5941A	47	8.0	67	1000	0.25	1.0	35.8	62
SMAJ5942A	51	7.3	70	1100	0.25	1.0	38.8	58
SMAJ5943A	56	6.7	86	1300	0.25	1.0	42.6	52
SMAJ5944A	62	6.0	100	1500	0.25	1.0	47.1	48
SMAJ5945A	68	5.5	120	1700	0.25	1.0	51.7	44
SMAJ5946A	75	5.0	140	2000	0.25	1.0	56.0	40
SMAJ5947A	82	4.6	160	2500	0.25	1.0	62.2	36
SMAJ5948A	91	4.1	200	3000	0.25	1.0	69.2	32
SMAJ5949A	100	3.7	250	3100	0.25	1.0	76.0	30
SMAJ5950A	110	3.4	300	4000	0.25	1.0	83.6	26
SMAJ5951A	120	3.1	380	4500	0.25	1.0	91.2	24
SMAJ5952A	130	2.9	450	5000	0.25	1.0	98.8	22
SMAJ5953A	150	2.5	600	6000	0.25	1.0	114.0	20
SMAJ5954A	160	2.3	700	6500	0.25	1.0	121.6	18.0
SMAJ5955A	180	2.1	900	7000	0.25	1.0	136.8	16.0
SMAJ5956A	200	1.9	1900	9990	0.25	1.0	152.0	14.0

Notes : (1) Suffix " A " indicates ± 10% tolerance, suffix " B " indicates ± 5% tolerance and suffix " C " indicates ± 2% tolerance,

(2) Zener (Vz) is measured at T_L = 30 °C and 90 seconds after application of dc current.

(3) The Zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current(I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}.

(4) The maximum dc current (I_{ZM}) is based only on the maximum power of 3.0 watts at T_L ≤105 °C. These values must be reduced by 48% (1.56 watts) when mounted on PC boards as described in Maximum Ratings.