

SMAJ5913A-G - SMAJ5956A-G SURFACE MOUNT SILICON ZENER DIODES

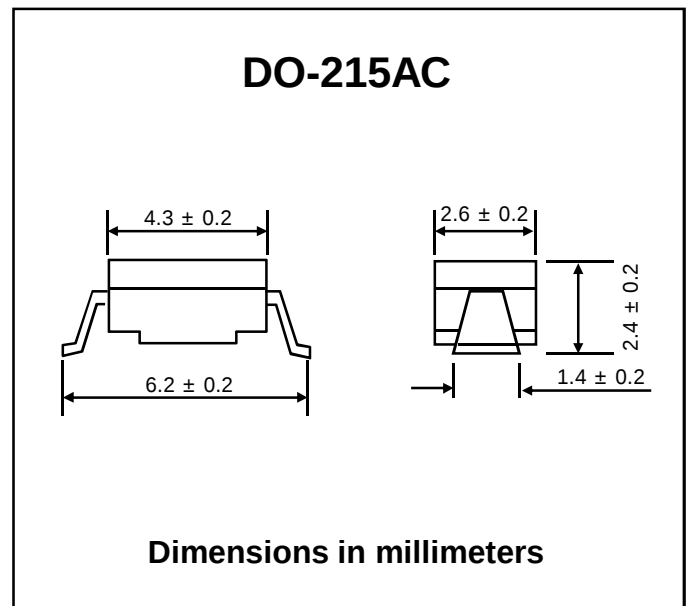
V_Z : 3.3 - 200 Volts
 P_D : 3.0 Watts

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

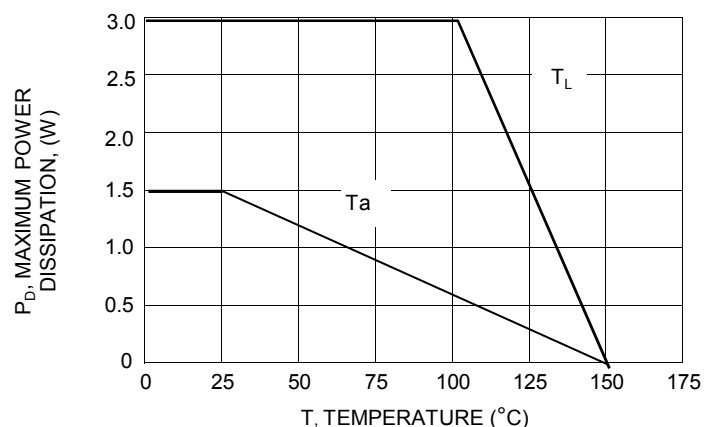


MAXIMUM RATINGS (Ta = 25 °C)

Rating	Symbol	Value	Unit
Power Dissipation @ Ta = 25 °C	P_D	3.0	W
Syeady-State Power at $T_L \leq 105$ °C	P_D	3.0	W
or at Ta = 25 °C (Note 1)		1.56	
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** ($T_L = 30^\circ\text{C}$)

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-G	3.3	113.6	10.0	500	1.00	100	1.0	908
SMAJ5914A-G	3.6	104.2	9.0	500	1.00	75	1.0	832
SMAJ5915A-G	3.9	96.1	7.5	500	1.00	25	1.0	768
SMAJ5916A-G	4.3	87.2	6.0	500	1.00	5.0	1.0	696
SMAJ5917A-G	4.7	79.8	5.0	500	1.00	5.0	1.5	638
SMAJ5918A-G	5.1	73.5	4.0	400	1.00	5.0	2.0	588
SMAJ5919A-G	5.6	66.9	2.0	300	1.00	5.0	3.0	534
SMAJ5920A-G	6.2	60.5	2.0	200	1.00	5.0	4.0	482
SMAJ5921A-G	6.8	55.1	2.5	200	1.00	5.0	5.2	440
SMAJ5922A-G	7.5	50.0	3.0	400	0.50	5.0	6.0	400
SMAJ5923A-G	8.2	45.7	3.5	400	0.50	5.0	6.5	364
SMAJ5924A-G	9.1	41.2	4.0	500	0.50	5.0	7.0	328
SMAJ5925A-G	10	37.5	4.5	500	0.25	5.0	8.0	300
SMAJ5926A-G	11	34.1	5.5	550	0.25	1.0	8.4	272
SMAJ5927A-G	12	31.2	6.5	550	0.25	1.0	9.1	250
SMAJ5928A-G	13	28.8	7.0	550	0.25	1.0	9.9	230
SMAJ5929A-G	15	25.0	9.0	600	0.25	1.0	11.4	200
SMAJ5930A-G	16	23.4	10	600	0.25	1.0	12.2	186
SMAJ5931A-G	18	20.8	12	650	0.25	1.0	13.7	166
SMAJ5932A-G	20	18.7	14	650	0.25	1.0	15.2	150
SMAJ5933A-G	22	17.0	17.5	650	0.25	1.0	16.7	136
SMAJ5934A-G	24	15.6	19	700	0.25	1.0	18.2	124
SMAJ5935A-G	27	13.9	23	700	0.25	1.0	20.6	110
SMAJ5936A-G	30	12.5	28	750	0.25	1.0	22.8	100
SMAJ5937A-G	33	11.4	33	800	0.25	1.0	25.1	90
SMAJ5938A-G	36	10.4	38	850	0.25	1.0	27.4	82
SMAJ5939A-G	39	9.6	45	900	0.25	1.0	29.7	76
SMAJ5940A-G	43	8.7	53	950	0.25	1.0	32.7	68
SMAJ5941A-G	47	8.0	67	1000	0.25	1.0	35.8	62
SMAJ5942A-G	51	7.3	70	1100	0.25	1.0	38.8	58
SMAJ5943A-G	56	6.7	86	1300	0.25	1.0	42.6	52
SMAJ5944A-G	62	6.0	100	1500	0.25	1.0	47.1	48
SMAJ5945A-G	68	5.5	120	1700	0.25	1.0	51.7	44
SMAJ5946A-G	75	5.0	140	2000	0.25	1.0	56.0	40
SMAJ5947A-G	82	4.6	160	2500	0.25	1.0	62.2	36
SMAJ5948A-G	91	4.1	200	3000	0.25	1.0	69.2	32
SMAJ5949A-G	100	3.7	250	3100	0.25	1.0	76.0	30
SMAJ5950A-G	110	3.4	300	4000	0.25	1.0	83.6	26
SMAJ5951A-G	120	3.1	380	4500	0.25	1.0	91.2	24
SMAJ5952A-G	130	2.9	450	5000	0.25	1.0	98.8	22
SMAJ5953A-G	150	2.5	600	6000	0.25	1.0	114.0	20
SMAJ5954A-G	160	2.3	700	6500	0.25	1.0	121.6	18.0
SMAJ5955A-G	180	2.1	900	7000	0.25	1.0	136.8	16.0
SMAJ5956A-G	200	1.9	1900	9990	0.25	1.0	152.0	14.0

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

(2) Zener (V_Z) is measured at $T_L = 30^\circ\text{C}$ 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 $T_L \leq 105^\circ\text{C}$. These values must be reduced by 48% (1.56 watts) when mounted on PC boards as described in Maximum Ratings.