

SMAJ5913B-G - SMAJ5956B-G SURFACE MOUNT SILICON ZENER DIODES

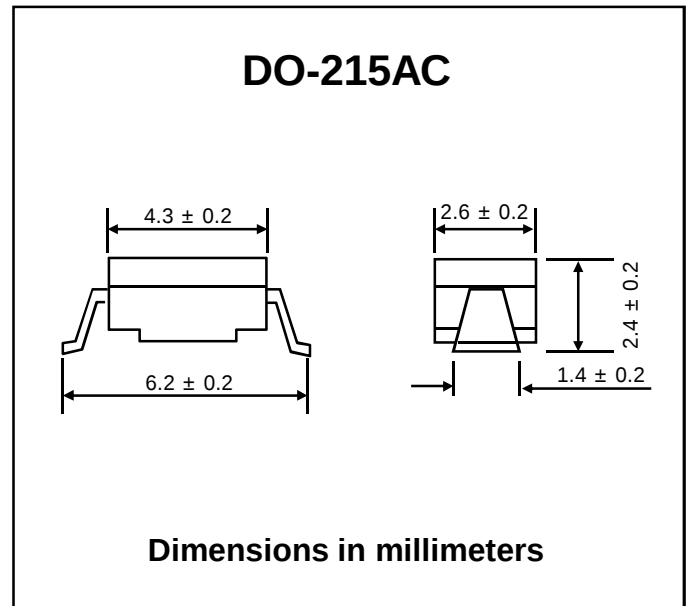
V_Z : 3.3 - 200 Volts
 P_D : 3.0 Watts

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

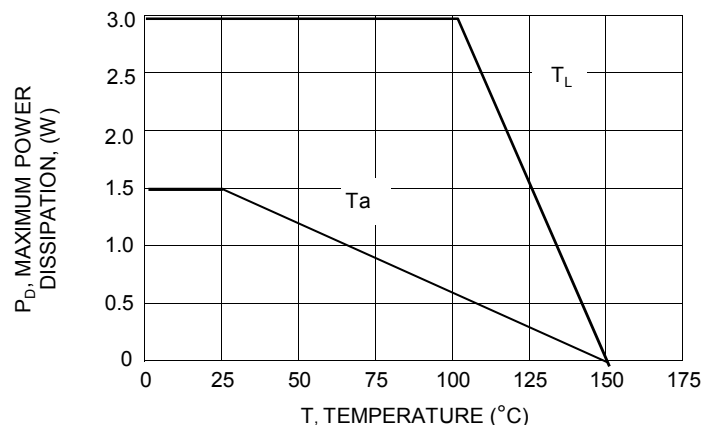


MAXIMUM RATINGS (Ta = 25 °C)

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)
SMAJ5913B-G	3.3	113.6	10.0	500	1.00	100	1.0	908
SMAJ5914B-G	3.6	104.2	9.0	500	1.00	75	1.0	832
SMAJ5915B-G	3.9	96.1	7.5	500	1.00	25	1.0	768
SMAJ5916B-G	4.3	87.2	6.0	500	1.00	5.0	1.0	696
SMAJ5917B-G	4.7	79.8	5.0	500	1.00	5.0	1.5	638
SMAJ5918B-G	5.1	73.5	4.0	400	1.00	5.0	2.0	588
SMAJ5919B-G	5.6	66.9	2.0	300	1.00	5.0	3.0	534
SMAJ5920B-G	6.2	60.5	2.0	200	1.00	5.0	4.0	482
SMAJ5921B-G	6.8	55.1	2.5	200	1.00	5.0	5.2	440
SMAJ5922B-G	7.5	50.0	3.0	400	0.50	5.0	6.0	400
SMAJ5923B-G	8.2	45.7	3.5	400	0.50	5.0	6.5	364
SMAJ5924B-G	9.1	41.2	4.0	500	0.50	5.0	7.0	328
SMAJ5925B-G	10	37.5	4.5	500	0.25	5.0	8.0	300
SMAJ5926B-G	11	34.1	5.5	550	0.25	1.0	8.4	272
SMAJ5927B-G	12	31.2	6.5	550	0.25	1.0	9.1	250
SMAJ5928B-G	13	28.8	7.0	550	0.25	1.0	9.9	230
SMAJ5929B-G	15	25.0	9.0	600	0.25	1.0	11.4	200
SMAJ5930B-G	16	23.4	10	600	0.25	1.0	12.2	186
SMAJ5931B-G	18	20.8	12	650	0.25	1.0	13.7	166
SMAJ5932B-G	20	18.7	14	650	0.25	1.0	15.2	150
SMAJ5933B-G	22	17.0	17.5	650	0.25	1.0	16.7	136
SMAJ5934B-G	24	15.6	19	700	0.25	1.0	18.2	124
SMAJ5935B-G	27	13.9	23	700	0.25	1.0	20.6	110
SMAJ5936B-G	30	12.5	28	750	0.25	1.0	22.8	100
SMAJ5937B-G	33	11.4	33	800	0.25	1.0	25.1	90
SMAJ5938B-G	36	10.4	38	850	0.25	1.0	27.4	82
SMAJ5939B-G	39	9.6	45	900	0.25	1.0	29.7	76
SMAJ5940B-G	43	8.7	53	950	0.25	1.0	32.7	68
SMAJ5941B-G	47	8.0	67	1000	0.25	1.0	35.8	62
SMAJ5942B-G	51	7.3	70	1100	0.25	1.0	38.8	58
SMAJ5943B-G	56	6.7	86	1300	0.25	1.0	42.6	52
SMAJ5944B-G	62	6.0	100	1500	0.25	1.0	47.1	48
SMAJ5945B-G	68	5.5	120	1700	0.25	1.0	51.7	44
SMAJ5946B-G	75	5.0	140	2000	0.25	1.0	56.0	40
SMAJ5947B-G	82	4.6	160	2500	0.25	1.0	62.2	36
SMAJ5948B-G	91	4.1	200	3000	0.25	1.0	69.2	32
SMAJ5949B-G	100	3.7	250	3100	0.25	1.0	76.0	30
SMAJ5950B-G	110	3.4	300	4000	0.25	1.0	83.6	26
SMAJ5951B-G	120	3.1	380	4500	0.25	1.0	91.2	24
SMAJ5952B-G	130	2.9	450	5000	0.25	1.0	98.8	22
SMAJ5953B-G	150	2.5	600	6000	0.25	1.0	114.0	20
SMAJ5954B-G	160	2.3	700	6500	0.25	1.0	121.6	18.0
SMAJ5955B-G	180	2.1	900	7000	0.25	1.0	136.8	16.0
SMAJ5956B-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.