

## Zener Diodes

## SMAJ5913B - SMAJ5956B

### Features

- Complete voltage range 3.3 to 200 V
- Withstands large surge stresses
- High surge current rating
- RoHS compliant with Halogen-free

HF



### Mechanical Data

- Case: SMA molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Power dissipation at Tamb≤50°C	P <sub>tot</sub>	1.5	W
Forward voltage @I <sub>F</sub> =200mA	V <sub>F</sub>	1.2	V
Junction temperature	T <sub>J</sub>	-55 ~ +150	°C
Storage temperature range	T <sub>STG</sub>	-55 ~ +150	°C

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**Electrical Characteristics** (@T<sub>A</sub> = 25°C unless otherwise specified)

Part Number	Device marking code	Zener voltage	Test current	Dynamic impedance	Knee current	Knee impedance	Reverse current	Reverse voltage	Max. DC current
		V <sub>Z</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub>	I <sub>ZK</sub>	Z <sub>ZK</sub>	I <sub>R(Max.)</sub>	V <sub>R</sub>	I <sub>ZM</sub>
		V	mA	Ω	mA	Ω	μA dc	V	mA
SMAJ5913B	5913	3.3	113.6	10.0	1.0	500	100	1.0	455
SMAJ5914B	5914	3.6	104.2	9.0	1.0	500	75	1.0	416
SMAJ5915B	5915	3.9	96.1	7.5	1.0	500	25	1.0	385
SMAJ5916B	5916	4.3	87.2	6.0	1.0	500	5.0	1.0	349
SMAJ5917B	5917	4.7	79.8	5.0	1.0	500	5.0	1.5	319
SMAJ5918B	5918	5.1	73.5	4.0	1.0	350	5.0	2.0	294
SMAJ5919B	5919	5.6	66.9	2.0	1.0	250	5.0	3.0	268
SMAJ5920B	5920	6.2	60.5	2.0	1.0	200	5.0	4.0	242
SMAJ5921B	5921	6.8	55.1	2.5	1.0	200	5.0	5.2	221
SMAJ5922B	5922	7.5	50.0	3.0	0.5	400	5.0	6.0	200
SMAJ5923B	5923	8.2	45.7	3.5	0.5	400	5.0	6.5	183
SMAJ5924B	5924	9.1	41.2	4.0	0.5	500	5.0	7.0	165
SMAJ5925B	5925	10	37.5	4.5	0.25	500	5.0	8.0	150
SMAJ5926B	5926	11	34.1	5.5	0.25	550	1.0	8.4	136
SMAJ5927B	5927	12	31.2	6.5	0.25	550	1.0	9.1	125
SMAJ5928B	5928	13	28.8	7.0	0.25	550	1.0	9.9	115
SMAJ5929B	5929	15	25.0	9.0	0.25	600	1.0	11.4	100
SMAJ5930B	5930	16	23.4	10	0.25	600	1.0	12.2	94
SMAJ5931B	5931	18	20.8	12	0.25	650	1.0	13.7	83
SMAJ5932B	5932	20	18.7	14	0.25	650	1.0	15.2	75
SMAJ5933B	5933	22	17.0	17.5	0.25	650	1.0	16.7	68
SMAJ5934B	5934	24	15.6	19	0.25	700	1.0	18.2	63
SMAJ5935B	5935	27	13.9	23	0.25	700	1.0	20.6	56
SMAJ5936B	5936	30	12.5	28	0.25	750	1.0	22.8	50
SMAJ5937B	5937	33	11.4	33	0.25	800	1.0	25.1	45
SMAJ5938B	5938	36	10.4	38	0.25	850	1.0	27.4	42
SMAJ5939B	5939	39	9.6	45	0.25	900	1.0	29.7	38
SMAJ5940B	5940	43	8.7	53	0.25	950	1.0	32.7	35

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		V <sub>Z</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub>	I <sub>ZK</sub>	Z <sub>ZK</sub>	I <sub>R(Max.)</sub>	V <sub>R</sub>	I <sub>ZM</sub>
		V	mA	Ω	mA	Ω	μA dc	V	mA
SMAJ5941B	5941	47	8.0	67	0.25	1000	1.0	35.8	32
SMAJ5942B	5942	51	7.3	70	0.25	1100	1.0	38.8	29
SMAJ5943B	5943	56	6.7	86	0.25	1300	1.0	42.6	27
SMAJ5944B	5944	62	6.0	100	0.25	1500	1.0	47.1	24
SMAJ5945B	5945	68	5.5	120	0.25	1700	1.0	51.2	22
SMAJ5946B	5946	75	5.0	140	0.25	2000	1.0	56.0	20
SMAJ5947B	5947	82	4.6	160	0.25	2500	1.0	62.2	18
SMAJ5948B	5948	91	4.1	200	0.25	3000	1.0	69.2	16
SMAJ5949B	5949	100	3.7	250	0.25	3100	1.0	76.0	15
SMAJ5950B	5950	110	3.4	300	0.25	4000	1.0	83.6	13
SMAJ5951B	5951	120	3.1	380	0.25	4500	1.0	91.2	12
SMAJ5952B	5952	130	2.9	450	0.25	5000	1.0	98.8	11
SMAJ5953B	5953	150	2.5	600	0.25	6000	1.0	114.0	10
SMAJ5954B	5954	160	2.3	700	0.25	6500	1.0	121.6	9.0
SMAJ5955B	5955	180	2.1	900	0.25	7000	1.0	136.8	8.0
SMAJ5956B	5956	200	1.9	1200	0.25	8000	1.0	152.0	7.0

Note \*1: No suffix indicates a  $\pm 20\%$  tolerance on nominal V z. Suffix A denotes a  $\pm 10\%$  tolerance, B denotes a  $\pm 5\%$  tolerance, C denotes a  $\pm 2\%$  tolerance, and D denotes a  $\pm 1\%$  tolerance.

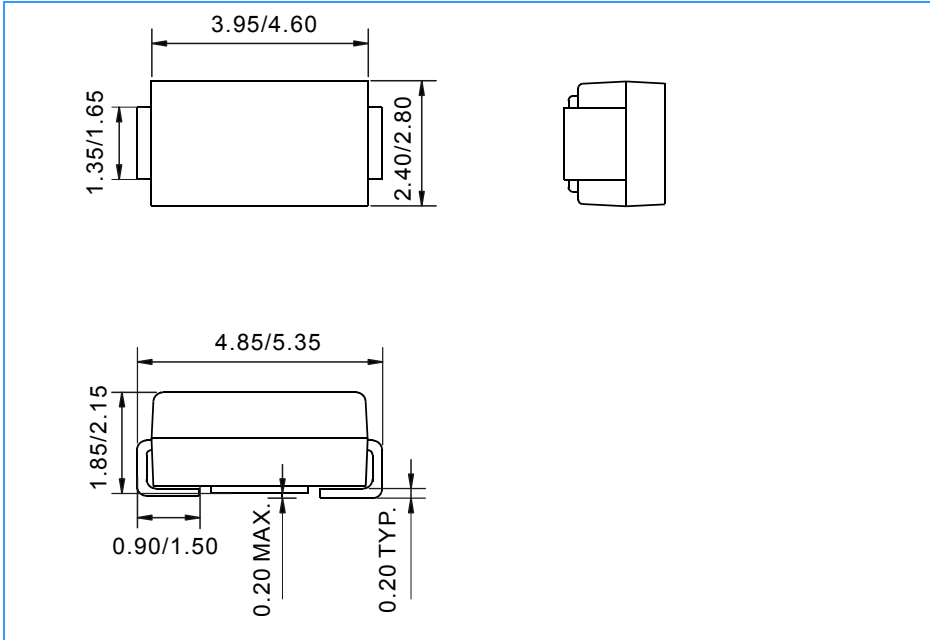
\*2: Zener voltage (V z) is measured at T<sub>L</sub>=30°C. Voltage measurement to be performed 90 seconds after application of dc current.

\*3: The zener impedance is derived from the 60Hz ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current(I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>.

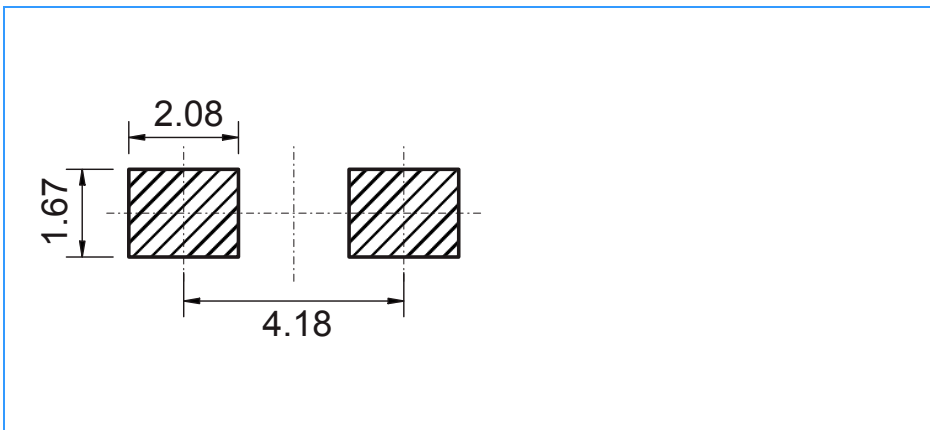
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### Package Outline Dimensions (Unit: mm)



### Mounting Pad Layout (Unit: mm)



### Ordering Information

Part Number	Package	Shipping Quantity
SMAJ5913B - SMAJ5956B	SMA	5000 / Tape & Reel