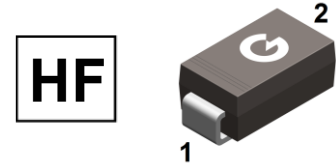


Zener Diodes

SMAJ5913B - SMAJ5956B

Features

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



Mechanical Data

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



Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Power dissipation at T _C =100°C	P _D	1.5	W
Forward voltage @I _F =200mA	V _F	1.2	V
Typical Thermal Resistance *1	R _{ΘJA}	70	°C/W
	R _{ΘJC}	25	
	R _{ΘJL}	30	
Junction temperature	T _J	-55 ~ +175	°C
Storage temperature range	T _{STG}	-55 ~ +175	°C

Note *1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1mm copper pad area

Zener Diodes

SMAJ5913B - SMAJ5956B

Electrical Characteristics (@T_A = 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 _Z			I _{ZT}	Z _{ZT}	I _{ZK}	Z _{ZK}	I _{R(Max.)}	V _R	I _{ZM}
		Min	Nom	Max	mA	Ω	mA	Ω	μA dc	V	mA
SMAJ5913B	5913	3.14	3.3	3.47	113.6	10	1	500	100	1	455
SMAJ5914B	5914	3.42	3.6	3.78	104.2	9	1	500	75	1	416
SMAJ5915B	5915	3.71	3.9	4.10	96.1	7.5	1	500	25	1	385
SMAJ5916B	5916	4.09	4.3	4.52	87.2	6	1	500	5	1	349
SMAJ5917B	5917	4.47	4.7	4.94	79.8	5	1	500	5	1.5	319
SMAJ5918B	5918	4.85	5.1	5.36	73.5	4	1	350	5	2	294
SMAJ5919B	5919	5.32	5.6	5.88	66.9	2	1	250	5	3	268
SMAJ5920B	5920	5.89	6.2	6.51	60.5	2	1	200	5	4	242
SMAJ5921B	5921	6.46	6.8	7.14	55.1	2.5	1	200	5	5.2	221
SMAJ5922B	5922	7.13	7.5	7.88	50	3	0.5	400	5	6	200
SMAJ5923B	5923	7.79	8.2	8.61	45.7	3.5	0.5	400	5	6.5	183
SMAJ5924B	5924	8.65	9.1	9.56	41.2	4	0.5	500	5	7	165
SMAJ5925B	5925	9.50	10	10.50	37.5	4.5	0.25	500	5	8	150
SMAJ5926B	5926	10.45	11	11.55	34.1	5.5	0.25	550	1	8.4	136
SMAJ5927B	5927	11.40	12	12.60	31.2	6.5	0.25	550	1	9.1	125
SMAJ5928B	5928	12.35	13	13.65	28.8	7	0.25	550	1	9.9	115
SMAJ5929B	5929	14.25	15	15.75	25	9	0.25	600	1	11.4	100
SMAJ5930B	5930	15.20	16	16.80	23.4	10	0.25	600	1	12.2	94
SMAJ5931B	5931	17.10	18	18.90	20.8	12	0.25	650	1	13.7	83
SMAJ5932B	5932	19.00	20	21.00	18.7	14	0.25	650	1	15.2	75
SMAJ5933B	5933	20.90	22	23.10	17	17.5	0.25	650	1	16.7	68
SMAJ5934B	5934	22.80	24	25.2	15.6	19	0.25	700	1	18.2	63
SMAJ5935B	5935	25.65	27	28.35	13.9	23	0.25	700	1	20.6	56
SMAJ5936B	5936	28.50	30	31.50	12.5	28	0.25	750	1	22.8	50
SMAJ5937B	5937	31.35	33	34.65	11.4	33	0.25	800	1	25.1	45
SMAJ5938B	5938	34.20	36	37.8	10.4	38	0.25	850	1	27.4	42
SMAJ5939B	5939	37.05	39	40.95	9.6	45	0.25	900	1	29.7	38
SMAJ5940B	5940	40.85	43	45.15	8.7	53	0.25	950	1	32.7	35

Zener Diodes

SMAJ5913B - SMAJ5956B

Part Number	Device marking code	Zener voltage			Test current	Dynamic impedance	Knee current	Knee impedance	Reverse current	Reverse voltage	Max. DC current
		V _Z			I _{ZT}	Z _{ZT}	I _{ZK}	Z _{ZK}	I _{R(Max.)}	V _R	I _{ZM}
		Min	Nom	Max	mA	Ω	mA	Ω	μA dc	V	mA
SMAJ5941B	5941	44.65	47	49.35	8.0	67	0.25	1000	1.0	35.8	32
SMAJ5942B	5942	48.45	51	53.55	7.3	70	0.25	1100	1.0	38.8	29
SMAJ5943B	5943	53.20	56	58.80	6.7	86	0.25	1300	1.0	42.6	27
SMAJ5944B	5944	58.90	62	65.10	6.0	100	0.25	1500	1.0	47.1	24
SMAJ5945B	5945	64.60	68	71.40	5.5	120	0.25	1700	1.0	51.2	22
SMAJ5946B	5946	71.25	75	78.75	5.0	140	0.25	2000	1.0	56.0	20
SMAJ5947B	5947	77.90	82	86.10	4.6	160	0.25	2500	1.0	62.2	18
SMAJ5948B	5948	86.45	91	95.55	4.1	200	0.25	3000	1.0	69.2	16
SMAJ5949B	5949	95.00	100	105	3.7	250	0.25	3100	1.0	76.0	15
SMAJ5950B	5950	104.5	110	115.5	3.4	300	0.25	4000	1.0	83.6	13
SMAJ5951B	5951	114	120	126	3.1	380	0.25	4500	1.0	91.2	12
SMAJ5952B	5952	123.5	130	136.5	2.9	450	0.25	5000	1.0	98.8	11
SMAJ5953B	5953	142.5	150	157.5	2.5	600	0.25	6000	1.0	114.0	10
SMAJ5954B	5954	152.0	160	168	2.3	700	0.25	6500	1.0	121.6	9.0
SMAJ5955B	5955	171	180	189	2.1	900	0.25	7000	1.0	136.8	8.0
SMAJ5956B	5956	190	200	210	1.9	1200	0.25	8000	1.0	152.0	7.0

Note *1: B denotes ±5% tolerance on nominal V_Z.

Zener Diodes

SMAJ5913B - SMAJ5956B

Ratings and Characteristic Curves (@ $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Steady State Power Derating

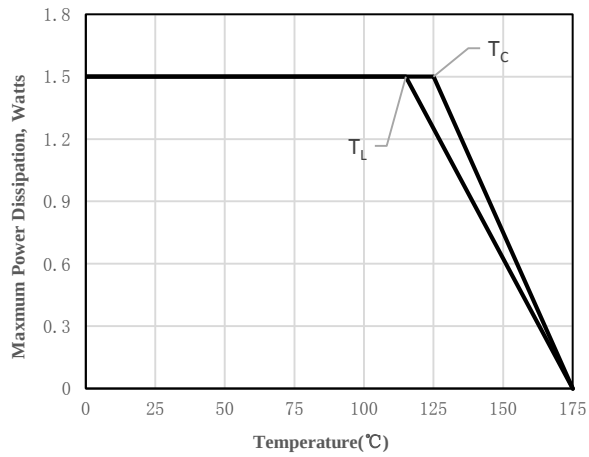


Fig.2 $V_Z = 5.1$ thru 39 Volts

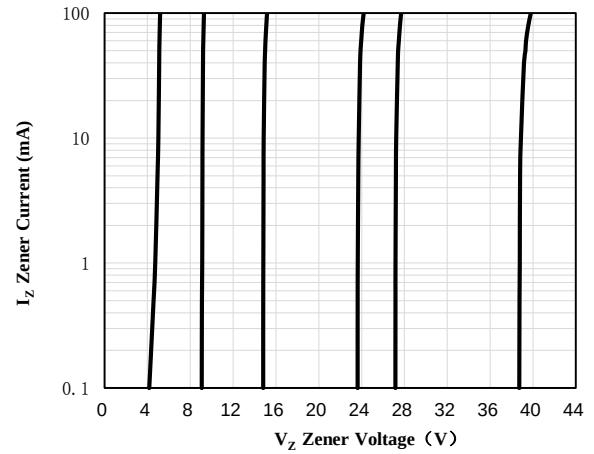
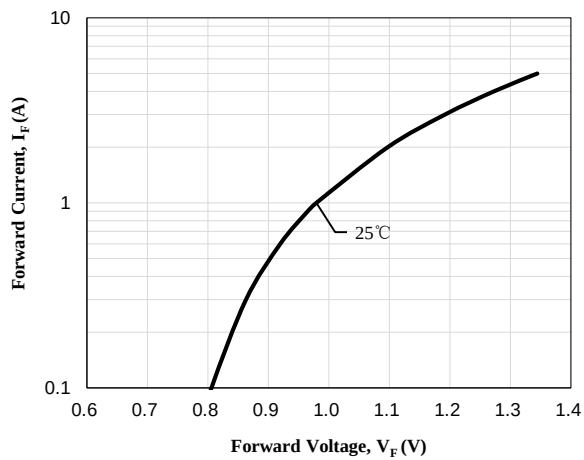


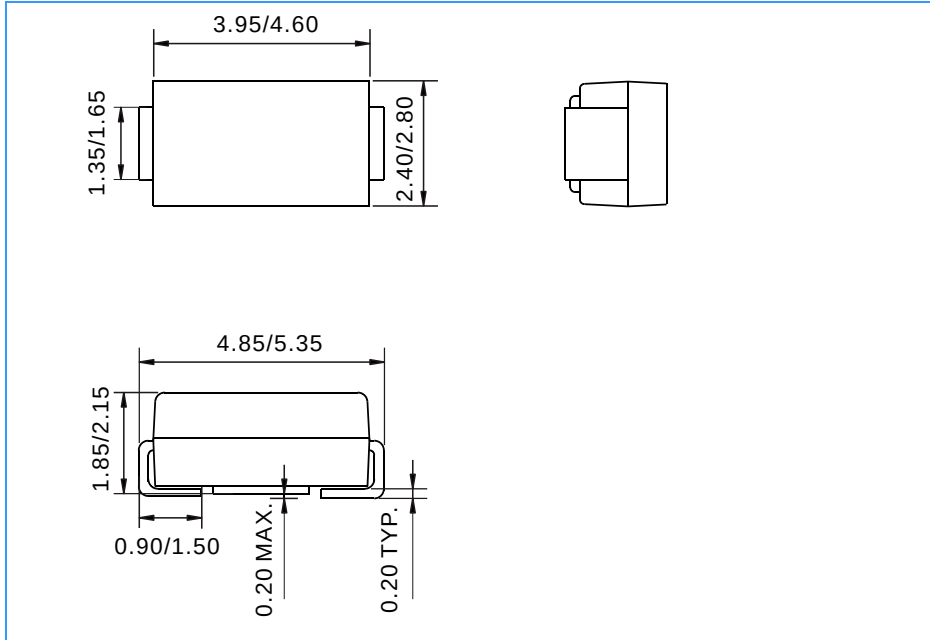
Fig.3 Typical Forward Voltage Characteristic



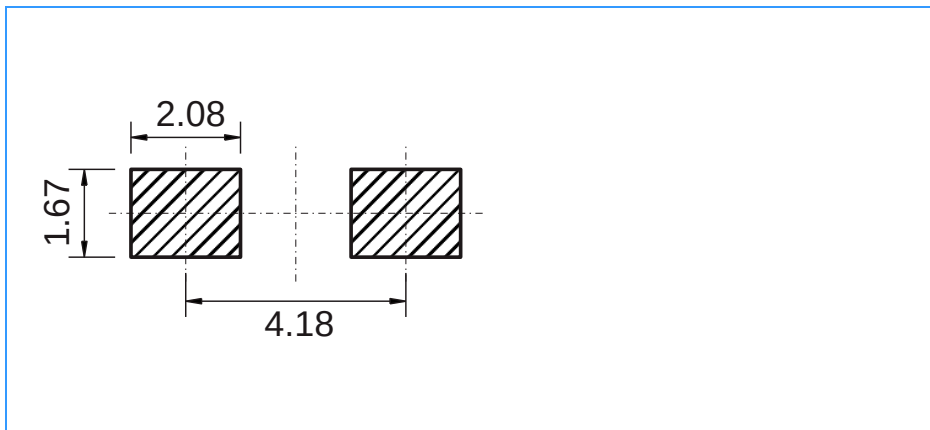
Zener Diodes

SMAJ5913B - SMAJ5956B

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

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