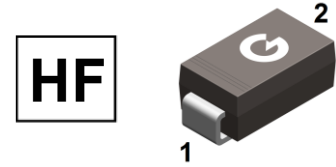


Zener Diodes

TSMAJ5913B - TSMAJ5956B

Features

- Complete voltage range 3.3 to 200 V
- Withstands large surge stresses
- High surge current rating
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



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

TSMAJ5913B - TSMAJ5956B

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
TSMAJ5913B	5913	3.14	3.3	3.47	113.6	10	1	500	100	1	455
TSMAJ5914B	5914	3.42	3.6	3.78	104.2	9	1	500	75	1	416
TSMAJ5915B	5915	3.71	3.9	4.10	96.1	7.5	1	500	25	1	385
TSMAJ5916B	5916	4.09	4.3	4.52	87.2	6	1	500	5	1	349
TSMAJ5917B	5917	4.47	4.7	4.94	79.8	5	1	500	5	1.5	319
TSMAJ5918B	5918	4.85	5.1	5.36	73.5	4	1	350	5	2	294
TSMAJ5919B	5919	5.32	5.6	5.88	66.9	2	1	250	5	3	268
TSMAJ5920B	5920	5.89	6.2	6.51	60.5	2	1	200	5	4	242
TSMAJ5921B	5921	6.46	6.8	7.14	55.1	2.5	1	200	5	5.2	221
TSMAJ5922B	5922	7.13	7.5	7.88	50	3	0.5	400	5	6	200
TSMAJ5923B	5923	7.79	8.2	8.61	45.7	3.5	0.5	400	5	6.5	183
TSMAJ5924B	5924	8.65	9.1	9.56	41.2	4	0.5	500	5	7	165
TSMAJ5925B	5925	9.50	10	10.50	37.5	4.5	0.25	500	5	8	150
TSMAJ5926B	5926	10.45	11	11.55	34.1	5.5	0.25	550	1	8.4	136
TSMAJ5927B	5927	11.40	12	12.60	31.2	6.5	0.25	550	1	9.1	125
TSMAJ5928B	5928	12.35	13	13.65	28.8	7	0.25	550	1	9.9	115
TSMAJ5929B	5929	14.25	15	15.75	25	9	0.25	600	1	11.4	100
TSMAJ5930B	5930	15.20	16	16.80	23.4	10	0.25	600	1	12.2	94
TSMAJ5931B	5931	17.10	18	18.90	20.8	12	0.25	650	1	13.7	83
TSMAJ5932B	5932	19.00	20	21.00	18.7	14	0.25	650	1	15.2	75
TSMAJ5933B	5933	20.90	22	23.10	17	17.5	0.25	650	1	16.7	68
TSMAJ5934B	5934	22.80	24	25.2	15.6	19	0.25	700	1	18.2	63
TSMAJ5935B	5935	25.65	27	28.35	13.9	23	0.25	700	1	20.6	56
TSMAJ5936B	5936	28.50	30	31.50	12.5	28	0.25	750	1	22.8	50
TSMAJ5937B	5937	31.35	33	34.65	11.4	33	0.25	800	1	25.1	45
TSMAJ5938B	5938	34.20	36	37.8	10.4	38	0.25	850	1	27.4	42
TSMAJ5939B	5939	37.05	39	40.95	9.6	45	0.25	900	1	29.7	38
TSMAJ5940B	5940	40.85	43	45.15	8.7	53	0.25	950	1	32.7	35

Zener Diodes

TSM AJ5913B - TSM AJ5956B

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
TSM AJ5941B	5941	44.65	47	49.35	8.0	67	0.25	1000	1.0	35.8	32
TSM AJ5942B	5942	48.45	51	53.55	7.3	70	0.25	1100	1.0	38.8	29
TSM AJ5943B	5943	53.20	56	58.80	6.7	86	0.25	1300	1.0	42.6	27
TSM AJ5944B	5944	58.90	62	65.10	6.0	100	0.25	1500	1.0	47.1	24
TSM AJ5945B	5945	64.60	68	71.40	5.5	120	0.25	1700	1.0	51.2	22
TSM AJ5946B	5946	71.25	75	78.75	5.0	140	0.25	2000	1.0	56.0	20
TSM AJ5947B	5947	77.90	82	86.10	4.6	160	0.25	2500	1.0	62.2	18
TSM AJ5948B	5948	86.45	91	95.55	4.1	200	0.25	3000	1.0	69.2	16
TSM AJ5949B	5949	95.00	100	105	3.7	250	0.25	3100	1.0	76.0	15
TSM AJ5950B	5950	104.5	110	115.5	3.4	300	0.25	4000	1.0	83.6	13
TSM AJ5951B	5951	114	120	126	3.1	380	0.25	4500	1.0	91.2	12
TSM AJ5952B	5952	123.5	130	136.5	2.9	450	0.25	5000	1.0	98.8	11
TSM AJ5953B	5953	142.5	150	157.5	2.5	600	0.25	6000	1.0	114.0	10
TSM AJ5954B	5954	152.0	160	168	2.3	700	0.25	6500	1.0	121.6	9.0
TSM AJ5955B	5955	171	180	189	2.1	900	0.25	7000	1.0	136.8	8.0
TSM AJ5956B	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

TSMAJ5913B - TSMAJ5956B

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

Fig.1 Steady State Power Derating

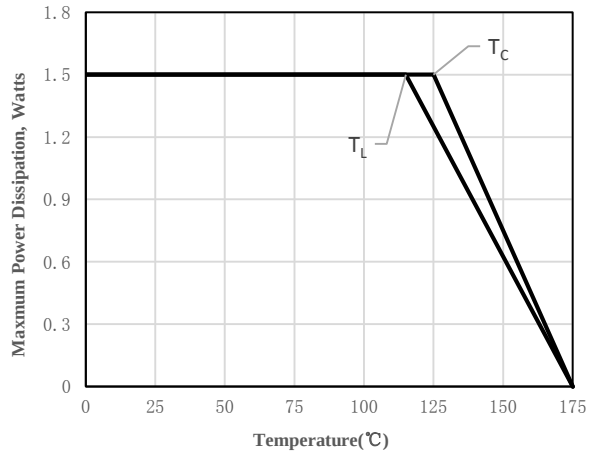


Fig.2 $V_Z = 5.1$ thru 39 Volts

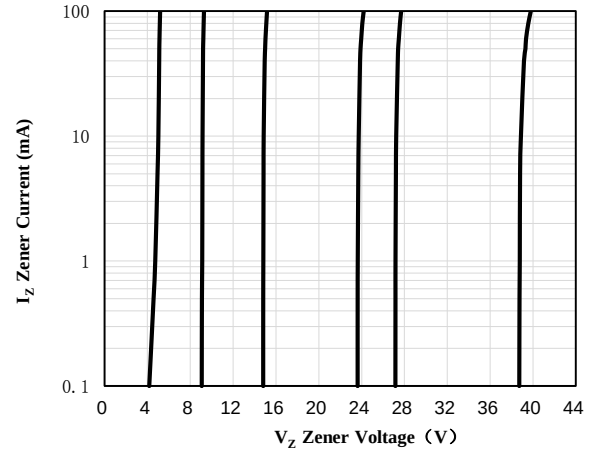
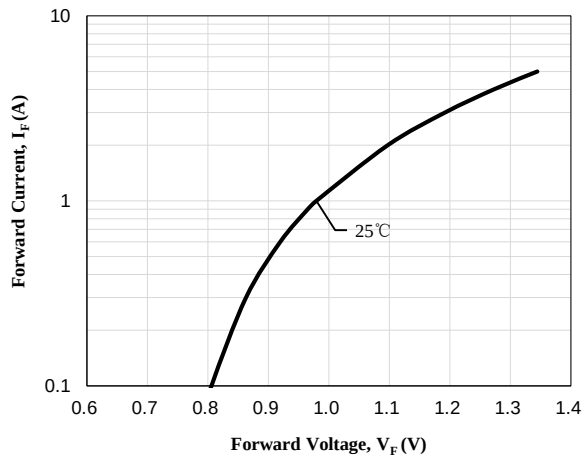


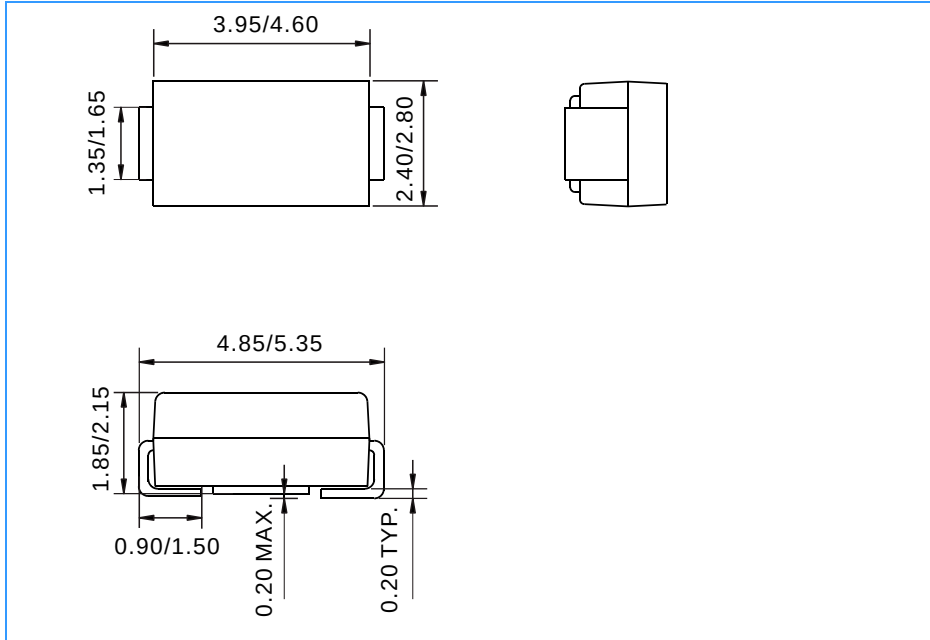
Fig.3 Typical Forward Voltage Characteristic



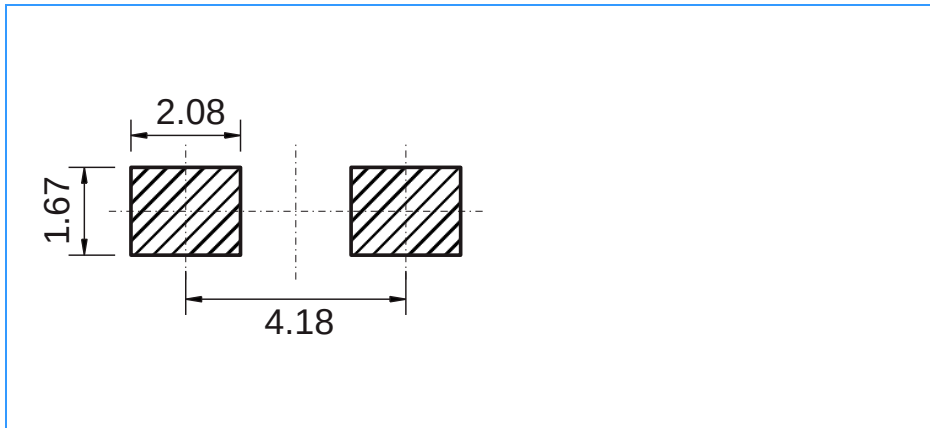
Zener Diodes

TSMAJ5913B - TSMAJ5956B

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Package	Shipping Quantity
TSMAJ5913B - TSMAJ5956B	SMA	5000 pcs / Tape & Reel