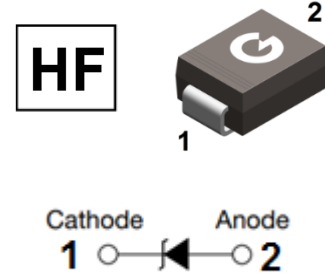


Zener Diodes

TSMBJ5913B - TSMBJ5956B

Features

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



Mechanical Data

- Case: SMB 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 _L =75°C	P _{tot}	3.0	W
Forward voltage @I _F =200mA	V _F	1.5	V
Typical thermal resistance	R _{θJL}	25	°C/W
	R _{θJA}	226	
Junction temperature	T _J	-50 ~ +150	°C
Storage temperature range	T _{STG}	-50 ~ +150	°C

Zener Diodes

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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}
		V	m A	Ω	m A	Ω	μA dc	V	m A
TSMBJ5913B	913B	3.3	113.6	10.0	1.0	500	100	1.0	818
TSMBJ5914B	914B	3.6	104.2	9.0	1.0	500	75	1.0	750
TSMBJ5915B	915B	3.9	96.1	7.5	1.0	500	25	1.0	692
TSMBJ5916B	916B	4.3	87.2	6.0	1.0	500	5.0	1.0	627
TSMBJ5917B	917B	4.7	79.8	5.0	1.0	500	5.0	1.5	574
TSMBJ5918B	918B	5.1	73.5	4.0	1.0	350	5.0	2.0	529
TSMBJ5919B	919B	5.6	66.9	2.0	1.0	250	5.0	3.0	482
TSMBJ5920B	920B	6.2	60.5	2.0	1.0	200	5.0	4.0	435
TSMBJ5921B	921B	6.8	55.1	2.5	1.0	200	5.0	5.2	397
TSMBJ5922B	922B	7.5	50.0	3.0	0.5	400	5.0	6.0	360
TSMBJ5923B	923B	8.2	45.7	3.5	0.5	400	5.0	6.5	329
TSMBJ5924B	924B	9.1	41.2	4.0	0.5	500	5.0	7.0	296
TSMBJ5925B	925B	10	37.5	4.5	0.25	500	5.0	8.0	270
TSMBJ5926B	926B	11	34.1	5.5	0.25	550	1.0	8.4	245
TSMBJ5927B	927B	12	31.2	6.5	0.25	550	1.0	9.1	225
TSMBJ5928B	928B	13	28.8	7.0	0.25	550	1.0	9.9	207
TSMBJ5929B	929B	15	25.0	9.0	0.25	600	1.0	11.4	180
TSMBJ5930B	930B	16	23.4	10	0.25	600	1.0	12.2	168
TSMBJ5931B	931B	18	20.8	12	0.25	650	1.0	13.7	150
TSMBJ5932B	932B	20	18.7	14	0.25	650	1.0	15.2	135
TSMBJ5933B	933B	22	17.0	17.5	0.25	650	1.0	16.7	122
TSMBJ5934B	934B	24	15.6	19	0.25	700	1.0	18.2	112
TSMBJ5935B	935B	27	13.9	23	0.25	700	1.0	20.6	100
TSMBJ5936B	936B	30	12.5	28	0.25	750	1.0	22.8	90
TSMBJ5937B	937B	33	11.4	33	0.25	800	1.0	25.1	81

Zener Diodes

TSMBJ5913B - TSMBJ5956B

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}
		V	mA	Ω	mA	Ω	μA dc	V	mA
TSMBJ5938B	938B	36	10.4	38	0.25	850	1.0	27.4	75
TSMBJ5939B	939B	39	9.6	45	0.25	900	1.0	29.7	69
TSMBJ5940B	940B	43	8.7	53	0.25	950	1.0	32.7	62
TSMBJ5941B	941B	47	8.0	67	0.25	1000	1.0	35.8	57
TSMBJ5942B	942B	51	7.3	70	0.25	1100	1.0	38.8	52
TSMBJ5943B	943B	56	6.7	86	0.25	1300	1.0	42.6	48
TSMBJ5944B	944B	62	6.0	100	0.25	1500	1.0	47.1	43
TSMBJ5945B	945B	68	5.5	120	0.25	1700	1.0	51.2	39
TSMBJ5946B	946B	75	5.0	140	0.25	2000	1.0	56.0	36
TSMBJ5947B	947B	82	4.6	160	0.25	2500	1.0	62.2	32
TSMBJ5948B	948B	91	4.1	200	0.25	3000	1.0	69.2	29
TSMBJ5949B	949B	100	3.7	250	0.25	3100	1.0	76.0	27
TSMBJ5950B	950B	110	3.4	300	0.25	4000	1.0	83.6	24
TSMBJ5951B	951B	120	3.1	380	0.25	4500	1.0	91.2	22
TSMBJ5952B	952B	130	2.9	450	0.25	5000	1.0	98.8	20
TSMBJ5953B	953B	150	2.5	600	0.25	6000	1.0	114.0	18
TSMBJ5954B	954B	160	2.3	700	0.25	6500	1.0	121.6	16
TSMBJ5955B	955B	180	2.1	900	0.25	7000	1.0	136.8	15
TSMBJ5956B	956B	200	1.9	1200	0.25	8000	1.0	152.0	13

Notes:

*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: 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_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}.

Zener Diodes

TSMBJ5913B - TSMBJ5956B

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

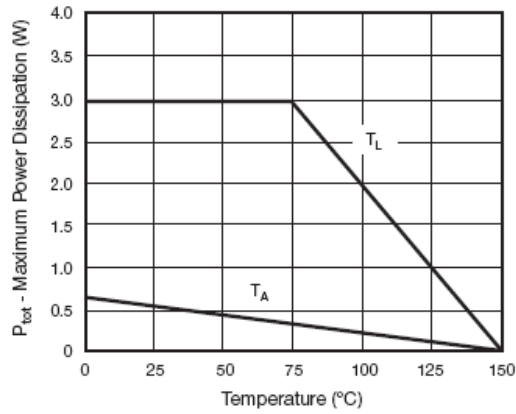


Fig. 1 - Steady State Power Durlating

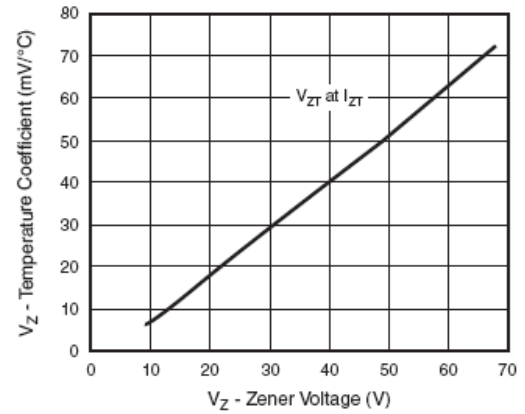


Fig. 3 - Typical Temperature Coefficients

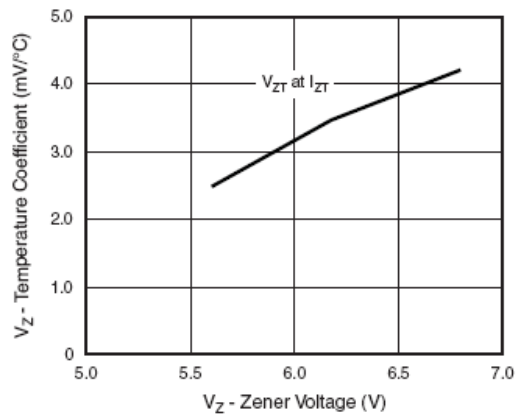


Fig. 2 - Typical Temperature Coefficients

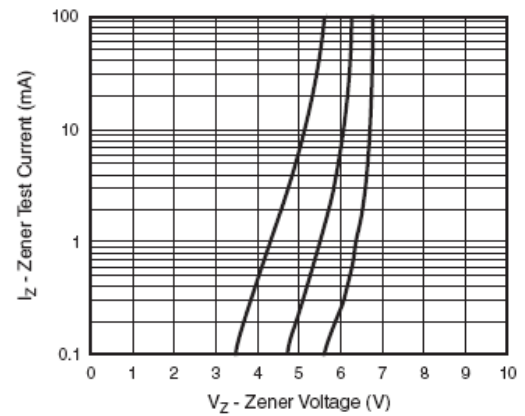
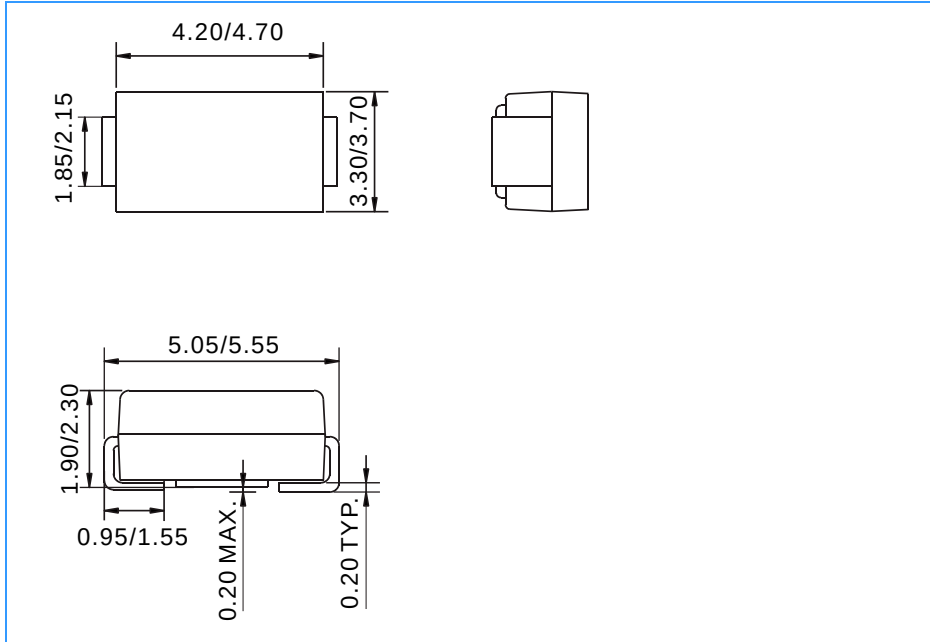


Fig. 4 - Typical Zener Voltage

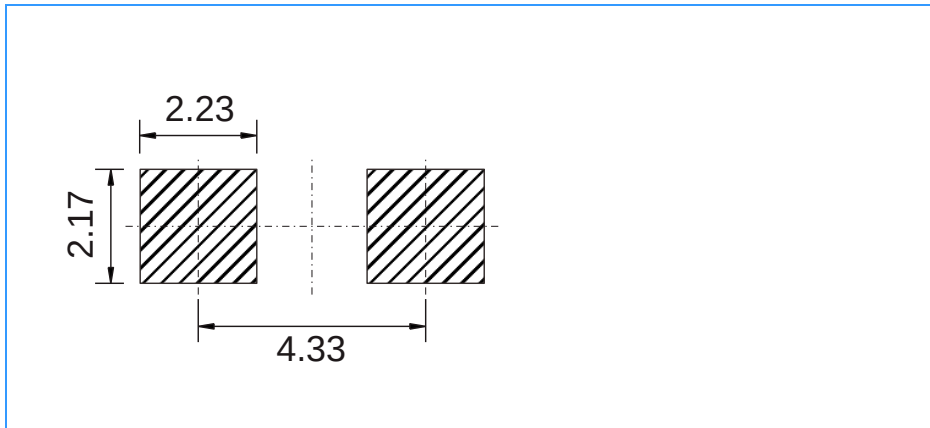
Zener Diodes

TSMBJ5913B - TSMBJ5956B

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Package	Shipping Quantity
TSMBJ5913B - TSMBJ5956B	SMB	3000 pcs / Tape & Reel