TECH PUBLIC
台舟电子

TP1SMB Series

Zener Voltage Suppressor Diodes

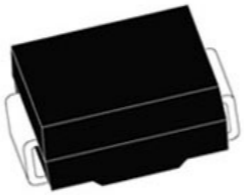
WWW.TECHPUBLIC.COM

Features

- P_d 3.0W
- V_z 3.3V-200V
- Glass passivated chip
- The marking bar indicates the cathode

Applications

- Stable Voltage





SMBG

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Power dissipation	P_d	W	T_L=75℃	3
Zener current	I_Z	mA		P_V /V_Z
Operation Junction and Storage Temperature Range	T_J, T_{stg}	℃		-55 ~ +150

Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Max
Thermal resistance	$R_{\theta JA}$	℃/W	Between junction to ambient	75
	$R_{\theta JL}$	℃/W	Between junction to lead	30
Forward voltage	V_F	V	I_F=200mA	1.5

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Device (Note 2)	Zener Voltage (Note 3)				Zener Impedance (Note 4)			Leakage Current		I_{ZM}
	V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		
	Min	Nom	Max	mA	Ω	Ω	mA	μA	Volts	mA(dc)
TP1SMB5913BT3G	3.13	3.3	3.47	113.6	10	500	1	100	1	454
TP1SMB5914BT3G	3.42	3.6	3.78	104.2	9	500	1	75	1	416
TP1SMB5915BT3G	3.70	3.9	4.10	96.1	7.5	500	1	25	1	384
TP1SMB5916BT3G	4.08	4.3	4.52	87.2	6	500	1	5	1	348
TP1SMB5917BT3G	4.46	4.7	4.94	79.8	5	500	1	5	1.5	319
TP1SMB5918BT3G	4.84	5.1	5.36	73.5	4	350	1	5	2	294
TP1SMB5919BT3G	5.32	5.6	5.88	66.9	2	250	1	5	3	267
TP1SMB5920BT3G	5.89	6.2	6.51	60.5	2	200	1	5	4	241
TP1SMB5921BT3G	6.46	6.8	7.14	55.1	2.5	200	1	5	5.2	220
TP1SMB5922BT3G	7.12	7.5	7.88	50	3	400	0.5	5	6	200
TP1SMB5923BT3G	7.79	8.2	8.61	45.7	3.5	400	0.5	5	6.5	182
TP1SMB5924BT3G	8.64	9.1	9.56	41.2	4	500	0.5	5	7	164
TP1SMB5925BT3G	9.5	10	10.5	37.5	4.5	500	0.25	5	8	150
TP1SMB5926BT3G	10.45	11	11.55	34.1	5.5	550	0.25	1	8.4	136
TP1SMB5927BT3G	11.4	12	12.6	31.2	6.5	550	0.25	1	9.1	125
TP1SMB5928BT3G	12.35	13	13.65	28.8	7	550	0.25	1	9.9	115
TP1SMB5929BT3G	14.25	15	15.75	25	9	600	0.25	1	11.4	100
TP1SMB5930BT3G	15.2	16	16.8	23.4	10	600	0.25	1	12.2	93
TP1SMB5931BT3G	17.1	18	18.9	20.8	12	650	0.25	1	13.7	83
TP1SMB5932BT3G	19	20	21	18.7	14	650	0.25	1	15.2	75
TP1SMB5933BT3G	20.9	22	23.1	17	17.5	650	0.25	1	16.7	68
TP1SMB5934BT3G	22.8	24	25.2	15.6	19	700	0.25	1	18.2	62
TP1SMB5935BT3G	25.65	27	28.35	13.9	23	700	0.25	1	20.6	55
TP1SMB5936BT3G	28.5	30	31.5	12.5	28	750	0.25	1	22.8	50
TP1SMB5937BT3G	31.35	33	34.65	11.4	33	800	0.25	1	25.1	45
TP1SMB5938BT3G	34.2	36	37.8	10.4	38	850	0.25	1	27.4	41
TP1SMB5939BT3G	37.05	39	40.95	9.6	45	900	0.25	1	29.7	38
TP1SMB5940BT3G	40.85	43	45.15	8.7	53	950	0.25	1	32.7	34
TP1SMB5941BT3G	44.65	47	49.35	8	67	1000	0.25	1	35.8	31
TP1SMB5942BT3G	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
TP1SMB5943BT3G	53.2	56	58.8	6.7	86	1300	0.25	1	42.6	26
TP1SMB5944BT3G	58.9	62	65.1	6	100	1500	0.25	1	47.1	24
TP1SMB5945BT3G	64.6	68	71.4	5.5	120	1700	0.25	1	51.7	22
TP1SMB5946BT3G	71.25	75	78.75	5	140	2000	0.25	1	56	20
TP1SMB5947BT3G	77.9	82	86.1	4.6	160	2500	0.25	1	62.2	18
TP1SMB5948BT3G	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	16
TP1SMB5949BT3G	95	100	105	3.7	250	3100	0.25	1	76	15
TP1SMB5950BT3G	104.5	110	115.5	3.4	300	4000	0.25	1	83.6	13
TP1SMB5951BT3G	114	120	126	3.1	380	4500	0.25	1	91.2	12
TP1SMB5952BT3G	123.5	130	136.5	2.9	450	5000	0.25	1	98.8	11
TP1SMB5953BT3G	142.5	150	157.5	2.5	600	6000	0.25	1	114	10
TP1SMB5954BT3G	152	160	168	2.3	700	6500	0.25	1	121.6	9
TP1SMB5955BT3G	171	180	189	2.1	900	7000	0.25	1	136.8	8
TP1SMB5956BT3G	190	200	210	1.9	1200	8000	0.25	1	152	7

Typical Characteristics

Figure 1. Steady State Power Derating

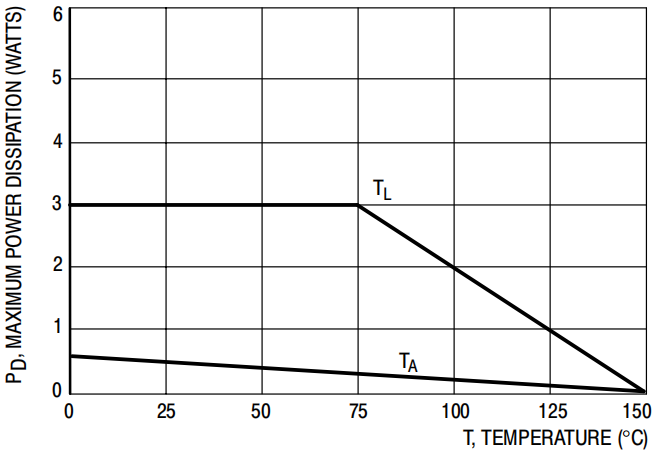


Figure 2. Maximum Surge Power

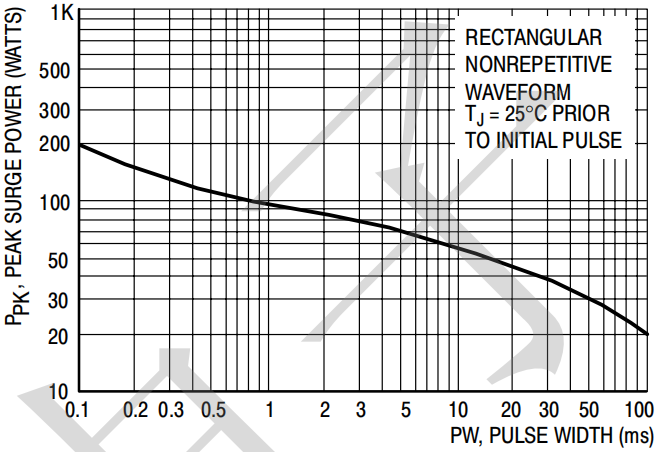


Figure 3. Zener Voltage − To 12 Volts

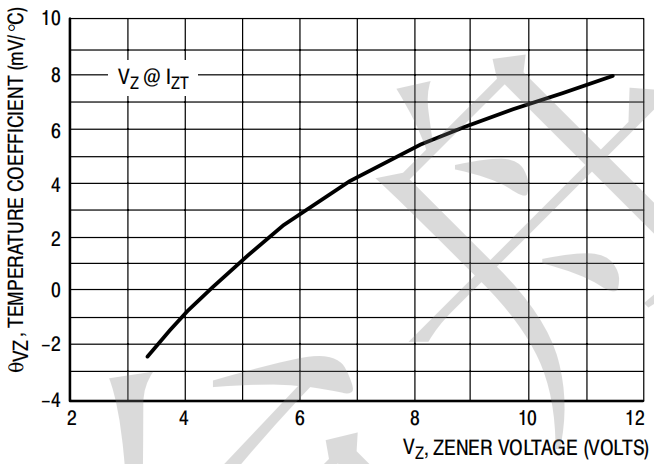


Figure 4. Zener Voltage − 14 To 200 Volts

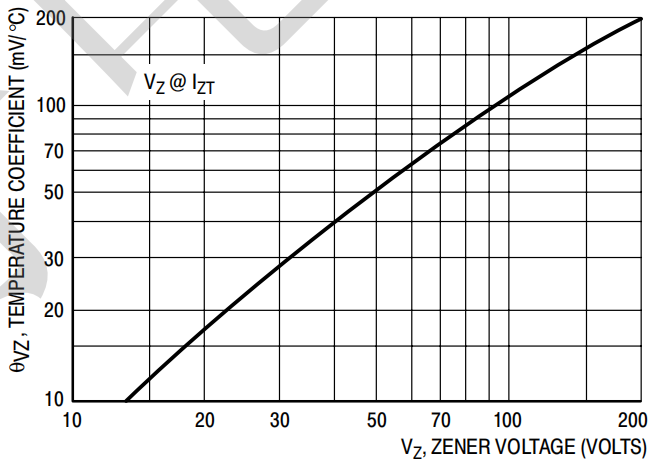


Figure 5. V_Z = 3.3 thru 10 Volts

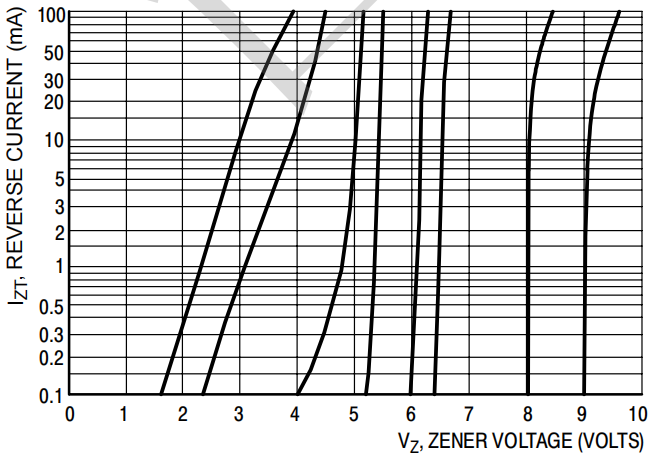
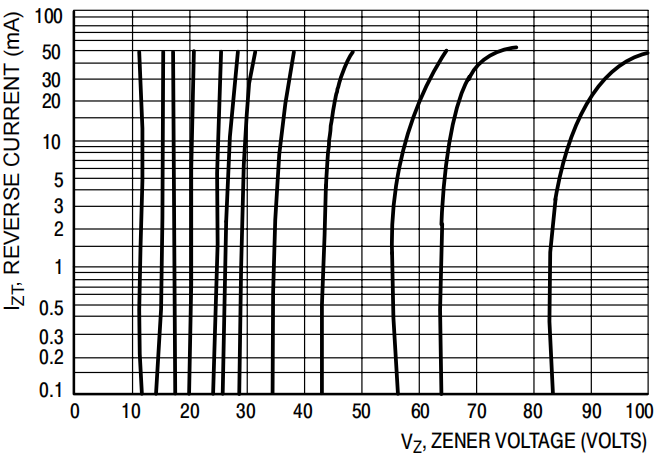
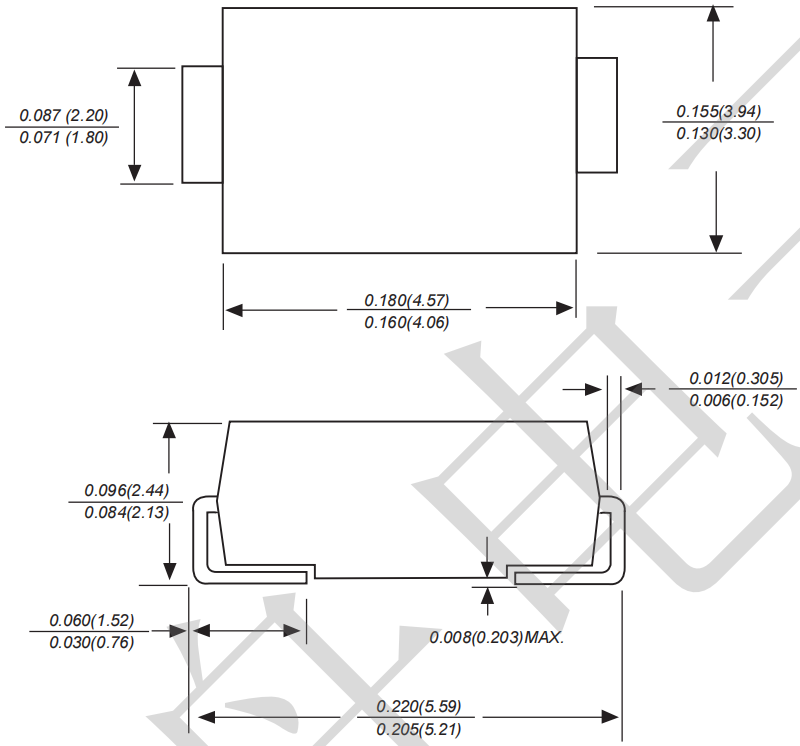


Figure 6. V_Z = 12 thru 82 Volts

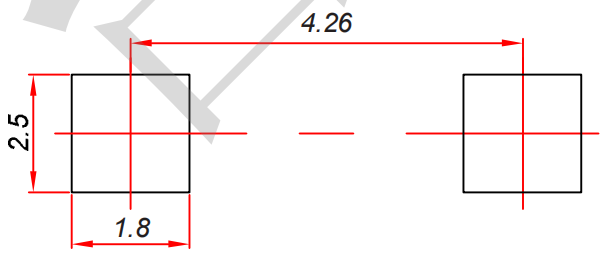


SMBG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBG Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.