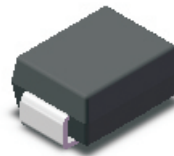


Features

- Total power dissipation: Max. 3.0 W.
- Wide zener reverse voltage range 3.3V to 200V.
- Small plastic package suitable for surface mounted design.
- Case: SMB
- Terminals: Solderable per MIL-STD-750, Method 2026.
- Complies with the standards of AEC-Q101

RoHS
Compliant



Function Diagram



Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
DC power dissipation at T _L =75 °C , measure at zero lead length (Note 1) derate above 75°C	P _D	3.0	W
		40	mW/°C
Maximum Steady State Power Dissipation @ T _A =25°C Derate above 25°C	P _D	550	mW
		4.4	mW/°C
Junction to ambient thermal resistance	R _{thJA}	226	°C/W
Junction to lead thermal resistance	R _{thJL}	25	°C/W
Junction Temperature Range	T _J	-55 to 150	°C
Storage Temperature Range	T _{STG}	-55 to 150	°C

AGENCY	AGENCY FILE NUMBER
	Pending

Notes:

- 1、 Mounted on Cu-Pad size 5mm x 5mm on PCB.
- 2、 Single phase half-wave 60 Hz, resistive or inductive
load, for capacitive load current derate by 20 %.

Characteristics (T = 25°C unless otherwise noted)

 (TL = 30°C unless otherwise noted, V_F = 1.5 V Max. @ I_F = 200 mA(DC) for all types)

Type Number	Marking	Nominal Zener Voltage ^{1,2}				Zener Impedance ³			Leakage Current		Maximum DC Zener Current
		V _Z			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}		IR @ VR		
		Min (V)	Nom (V)	Max (V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	I _{ZM} (mA)(DC)
1SMB5913B-AT	913B	3.13	3.3	3.47	113.6	10	500	1	100	1	454
1SMB5914B-AT	914B	3.42	3.6	3.78	104.2	9	500	1	75	1	416
1SMB5915B-AT	915B	3.70	3.9	4.10	96.1	7.5	500	1	25	1	384
1SMB5916B-AT	916B	4.08	4.3	4.52	87.2	6	500	1	5	1	348
1SMB5917B-AT	917B	4.46	4.7	4.94	79.8	5	500	1	5	1.5	319
1SMB5918B-AT	918B	4.84	5.1	5.36	73.5	4	350	1	5	2	294
1SMB5919B-AT	919B	5.32	5.6	5.88	66.9	2	250	1	5	3	267
1SMB5920B-AT	920B	5.89	6.2	6.51	60.5	2	200	1	5	4	241
1SMB5921B-AT	921B	6.46	6.8	7.14	55.1	2.5	200	1	5	5.2	220
1SMB5922B-AT	922B	7.12	7.5	7.88	50	3	400	0.5	5	6	200
1SMB5923B-AT	923B	7.79	8.2	8.61	45.7	3.5	400	0.5	5	6.5	182
1SMB5924B-AT	924B	8.64	9.1	9.56	41.2	4	500	0.5	5	7	164
1SMB5925B-AT	925B	9.5	10	10.5	37.5	4.5	500	0.25	5	8	150
1SMB5926B-AT	926B	10.45	11	11.55	34.1	5.5	550	0.25	1	8.4	136
1SMB5927B-AT	927B	11.4	12	12.6	31.2	6.5	550	0.25	1	9.1	125
1SMB5928B-AT	928B	12.35	13	13.65	28.8	7	550	0.25	1	9.9	115
1SMB5929B-AT	929B	14.25	15	15.75	25	9	600	0.25	1	11.4	100
1SMB5930B-AT	930B	15.2	16	16.8	23.4	10	600	0.25	1	12.2	93
1SMB5931B-AT	931B	17.1	18	18.9	20.8	12	650	0.25	1	13.7	83
1SMB5932B-AT	932B	19	20	21	18.7	14	650	0.25	1	15.2	75
1SMB5933B-AT	933B	20.9	22	23.1	17	17.5	650	0.25	1	16.7	68
1SMB5934B-AT	934B	22.8	24	25.2	15.6	19	700	0.25	1	18.2	62
1SMB5935B-AT	935B	25.65	27	28.35	13.9	23	700	0.25	1	20.6	55
1SMB5936B-AT	936B	28.5	30	31.5	12.5	28	750	0.25	1	22.8	50
1SMB5937B-AT	937B	31.35	33	34.65	11.4	33	800	0.25	1	25.1	45
1SMB5938B-AT	938B	34.2	36	37.8	10.4	38	850	0.25	1	27.4	41
1SMB5939B-AT	939B	37.05	39	40.95	9.6	45	900	0.25	1	29.7	38
1SMB5940B-AT	940B	40.85	43	45.15	8.7	53	950	0.25	1	32.7	34
1SMB5941B-AT	941B	44.65	47	49.35	8	67	1000	0.25	1	35.8	31
1SMB5942B-AT	942B	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
1SMB5943B-AT	943B	53.2	56	58.8	6.7	86	1300	0.25	1	42.6	26
1SMB5944B-AT	944B	58.9	62	65.1	6	100	1500	0.25	1	47.1	24
1SMB5945B-AT	945B	64.6	68	71.4	5.5	120	1700	0.25	1	51.7	22
1SMB5946B-AT	946B	71.25	75	78.75	5	140	2000	0.25	1	56	20
1SMB5947B-AT	947B	77.9	82	86.1	4.6	160	2500	0.25	1	62.2	18
1SMB5948B-AT	948B	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	16
1SMB5949B-AT	949B	95	100	105	3.7	250	3100	0.25	1	76	15
1SMB5950B-AT	950B	104.5	110	115.5	3.4	300	4000	0.25	1	83.6	13
1SMB5951B-AT	951B	114	120	126	3.1	380	4500	0.25	1	91.2	12
1SMB5952B-AT	952B	123.5	130	136.5	2.9	450	5000	0.25	1	98.8	11
1SMB5953B-AT	953B	142.5	150	157.5	2.5	600	6000	0.25	1	114	10
1SMB5954B-AT	954B	152	160	168	2.3	700	6500	0.25	1	121.6	9
1SMB5955B-AT	955B	171	180	189	2.1	900	7000	0.25	1	136.8	8
1SMB5956B-AT	956B	190	200	210	1.9	1200	8000	0.25	1	152	7

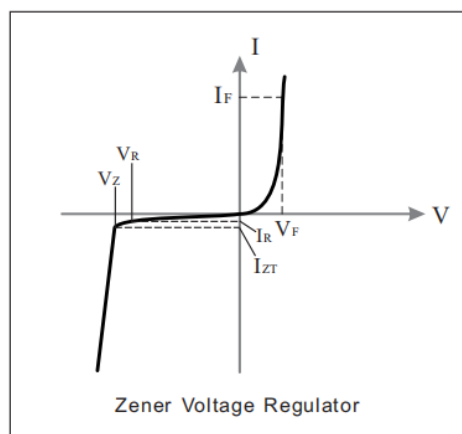
Notes :

1. Tolerance and type number designation the type numbers listed indicate a tolerance of 5%
2. Zener voltage (V_Z) measurement:
Nominal Zener voltage is measured with the device junction in thermal equilibrium with ambient temperature 25°C
3. Zener impedance (Z_Z) derivation :
 Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current applied.
4. The specified limits are for $I_Z(AC) = 0.1 I_Z(DC)$ with the AC frequency = 60 Hz

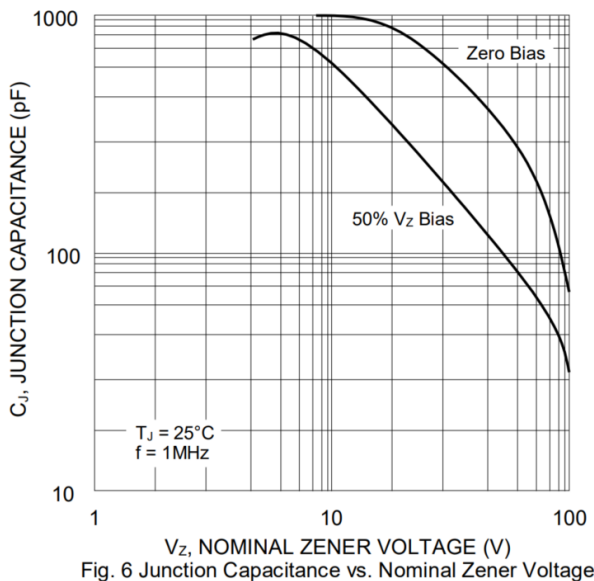
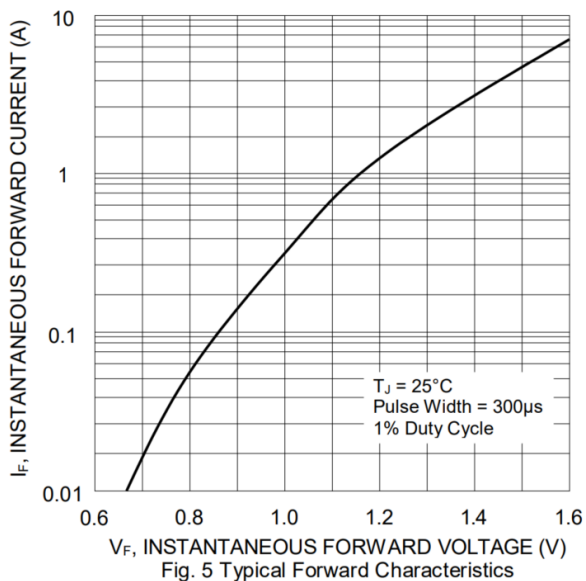
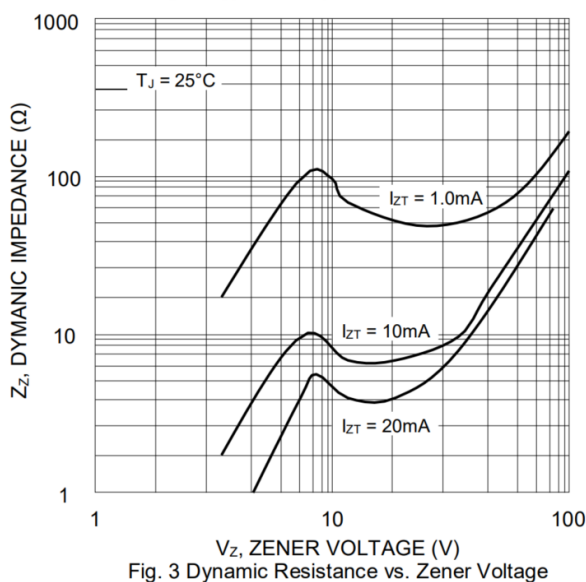
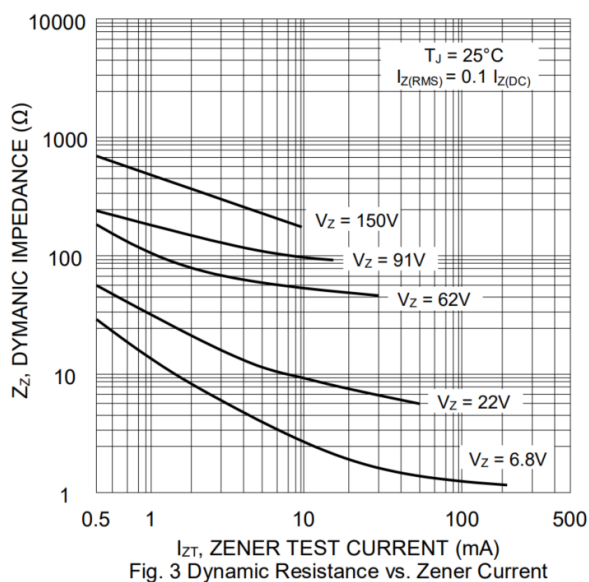
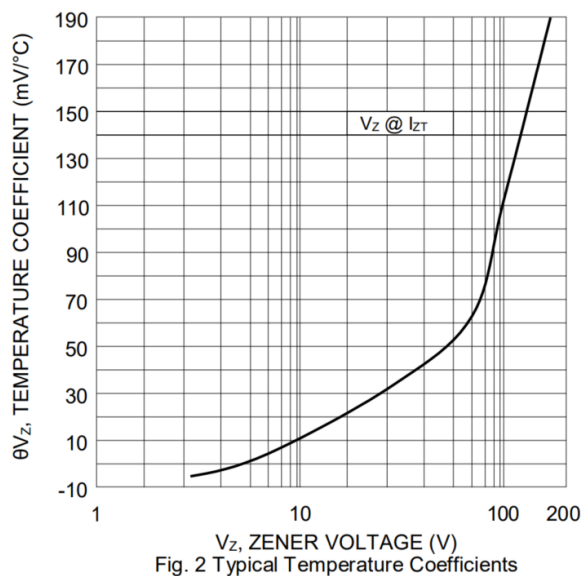
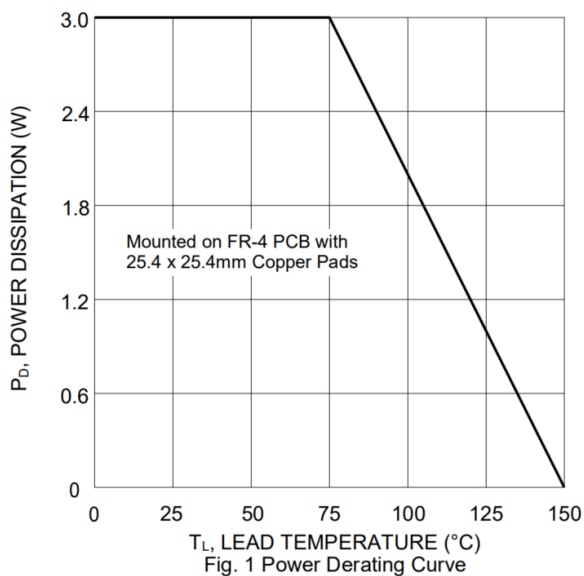
I-V Curve Characteristics

ELECTRICAL CHARACTERISTICS
($T_L = 30^\circ\text{C}$ unless otherwise noted,
 $V_F = 1.5\text{ V Max. @ } I_F = 200\text{ mA(DC)}$ for all types)

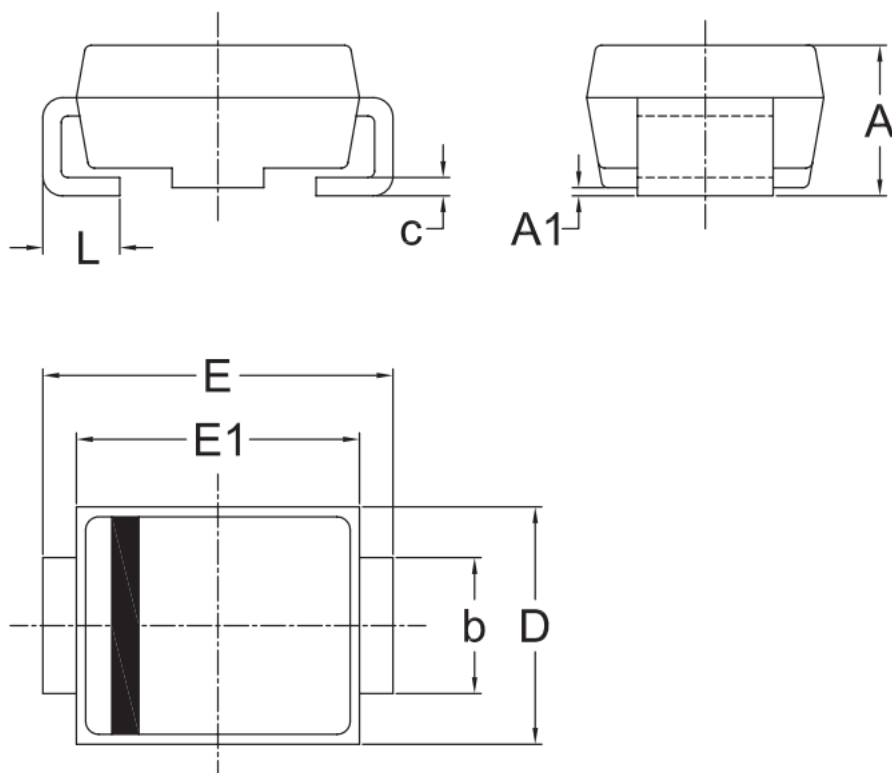
Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
I_{ZM}	Maximum DC Zener Current



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



Dimensions



UNIT	A	A1	b	c	D	E	E1	L	
mm	Max	2.50	0.30	2.15	0.25	3.75	5.54	4.65	1.50
	Min	2.00	0.00	1.85	0.15	3.45	5.04	4.35	0.80

Remark: Dimensions D and E1 do not include mold flash & gate remain.

Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	13-July-2022

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[G](#) [MMBZ5230B-TP](#) [1N4736A-TR](#) [1N4747A](#)