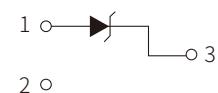


FEATURES

- | Low Zener Impedance
- | Power Dissipation of 300mW
- | High Stability and High Reliability



Schematic Symbol

MECHANICAL DATA

- | SOT-23 Small Outline Plastic Package
- | Epoxy UL: 94V-0
- | Mounting Position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation ⁽¹⁾	P _D	300	mW
Maximum forward voltage at I _F =10mA ⁽²⁾	V _F	0.9	V
Thermal resistance junction to ambient air Warmewider stand Sperrschicht –umgebende Luft	R _{θJA}	417	°C/W
Storage temperature range	T _S	-65 to +150	°C

1)Valid provided that device terminals are kept at ambient temperature.

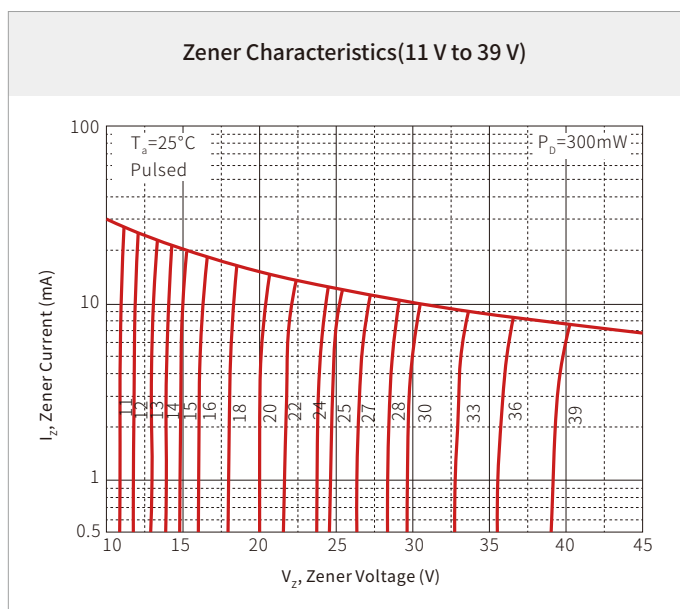
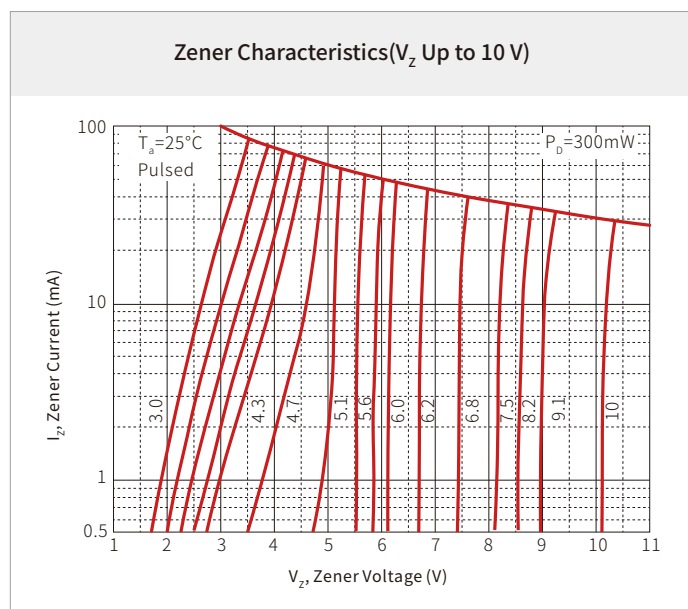
2)Test with pulse, period=5ms, pulse width=300us.

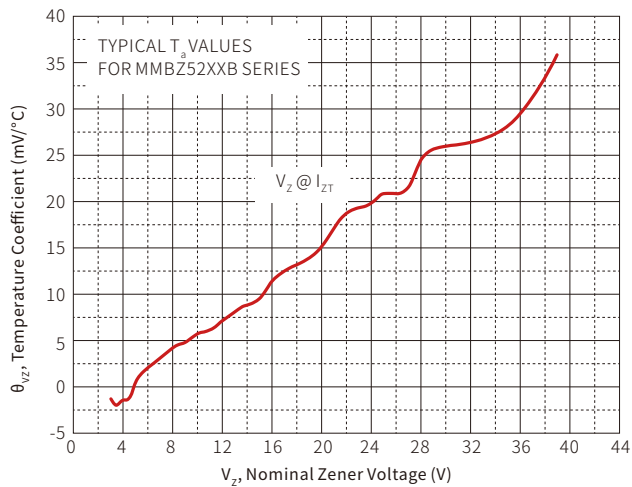
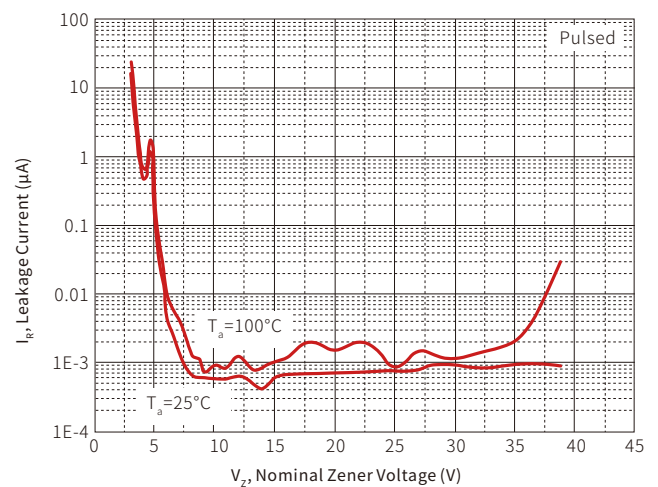
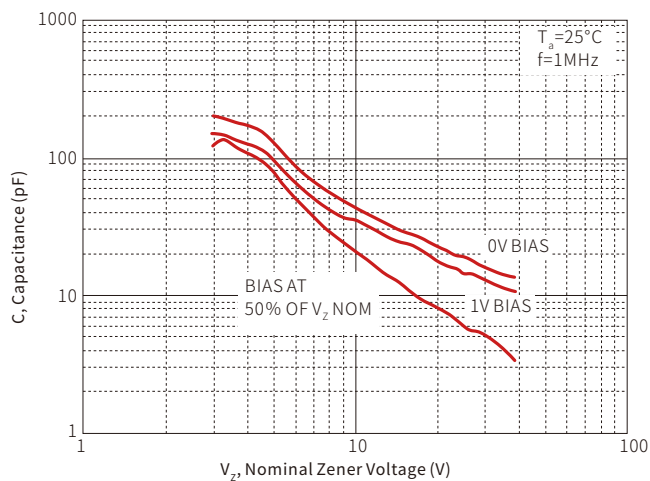
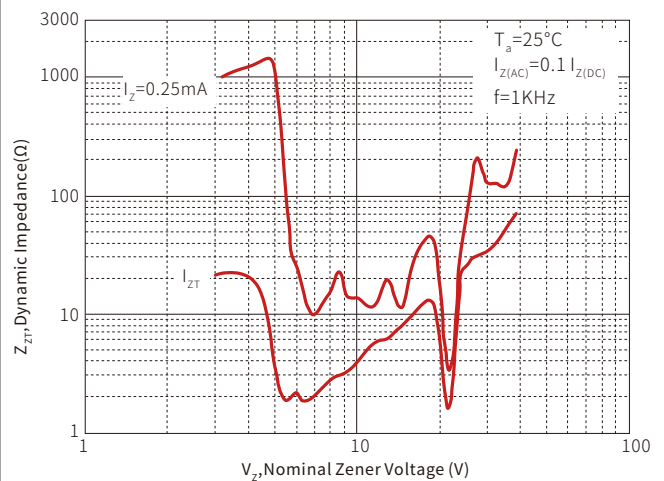
ELECTRICAL CHARACTERISTICS

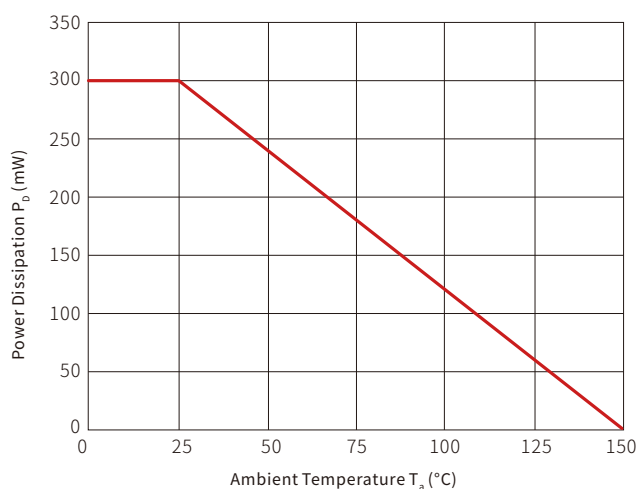
Part Number	Device Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		I_R	V_R
		Nom(V)	Min(V)	Max(V)	(mA)	(Ω)	(mA)		(μ A)	(V)
MMBZ5221B	KC1	2.4	2.28	2.52	20	30	1200	0.25	100	1.0
MMBZ5222B	KC2	2.5	2.38	2.63	20	30	1250	0.25	100	1.0
MMBZ5223B	KC3	2.7	2.57	2.84	20	30	1300	0.25	75	1.0
MMBZ5224B	KC4	2.8	2.66	2.94	20	30	1400	0.25	75	1.0
MMBZ5225B	KC5	3.0	2.85	3.15	20	30	1600	0.25	50	1.0
MMBZ5226B	KG1	3.3	3.14	3.47	20	28	1600	0.25	25	1.0
MMBZ5227B	KG2	3.6	3.42	3.78	20	24	1700	0.25	15	1.0
MMBZ5228B	KG3	3.9	3.71	4.10	20	23	1900	0.25	10	1.0
MMBZ5229B	KG4	4.3	4.09	4.52	20	22	2000	0.25	5.0	1.0
MMBZ5230B	KG5	4.7	4.47	4.94	20	19	1900	0.25	5.0	2.0
MMBZ5231B	KE1	5.1	4.85	5.36	20	17	1600	0.25	5.0	2.0
MMBZ5232B	KE2	5.6	5.32	5.88	20	11	1600	0.25	5.0	3.0
MMBZ5233B	KE3	6.0	5.70	6.30	20	7	1600	0.25	5.0	3.5
MMBZ5234B	KE4	6.2	5.89	6.51	20	7	1000	0.25	5.0	4.0
MMBZ5235B	KE5	6.8	6.46	7.14	20	5	750	0.25	3	5.0
MMBZ5236B	KF1	7.5	7.13	7.88	20	6	500	0.25	3	6.0
MMBZ5237B	KF2	8.2	7.79	8.61	20	8	500	0.25	3	6.5
MMBZ5238B	KF3	8.7	8.27	9.14	20	8	600	0.25	3	6.5
MMBZ5239B	KF4	9.1	8.65	9.56	20	10	600	0.25	3	7.0
MMBZ5240B	KF5	10	9.50	10.50	20	17	600	0.25	3	8.0
MMBZ5241B	KH1	11	10.45	11.55	20	22	600	0.25	2.0	8.4
MMBZ5242B	KH2	12	11.40	12.60	20	30	600	0.25	1.0	9.1
MMBZ5243B	KH3	13	12.35	13.65	9.5	13	600	0.25	0.5	9.9
MMBZ5244B	KH4	14	13.30	14.70	9.0	15	600	0.25	0.1	10
MMBZ5245B	KH5	15	14.25	15.75	8.5	16	600	0.25	0.1	11
MMBZ5246B	KJ1	16	15.20	16.80	7.8	17	600	0.25	0.1	12
MMBZ5247B	KJ2	17	16.15	17.85	7.5	19	600	0.25	0.1	13
MMBZ5248B	KJ3	18	17.10	18.90	7.0	21	600	0.25	0.1	14
MMBZ5249B	KJ4	19	18.05	19.95	6.6	23	600	0.25	0.1	14
MMBZ5250B	KJ5	20	19.00	21.00	6.2	25	600	0.25	0.1	15
MMBZ5251B	KK1	22	20.90	23.10	5.6	29	600	0.25	0.1	17

Part Number	Device Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current	
		$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		I_R	V_R
		Nom(V)	Min(V)	Max(V)	(mA)	(Ω)	(mA)		(μ A)	(V)
MMBZ5252B	KK2	24	22.80	25.20	5.2	33	600	0.25	0.1	18
MMBZ5253B	KK3	25	23.75	26.25	5.0	35	600	0.25	0.1	19
MMBZ5254B	KK4	27	25.65	28.35	5.0	41	600	0.25	0.1	21
MMBZ5255B	KK5	28	26.60	29.40	4.5	44	600	0.25	0.1	21
MMBZ5256B	KM1	30	28.50	31.50	4.2	49	600	0.25	0.1	23
MMBZ5257B	KM2	33	31.35	34.65	3.8	58	700	0.25	0.1	25
MMBZ5258B	KM3	36	34.20	37.80	3.4	70	700	0.25	0.1	27
MMBZ5259B	KM4	39	37.05	40.95	3.2	80	800	0.25	0.1	30
MMBZ5260B	KM5	43	40.85	45.15	3.0	93	900	0.25	0.1	33
MMBZ5261B	KN1	47	44.65	49.35	2.7	105	1000	0.25	0.1	36
MMBZ5262B	KN2	51	48.45	53.55	2.5	125	1100	0.25	0.1	39
MMBZ5263B	KN3	56	53.20	58.80	2.2	150	1300	0.25	0.1	43
MMBZ5264B	KN4	60	57.00	63.00	2.1	170	1400	0.25	0.1	46
MMBZ5265B	KN5	62	58.90	65.10	2.0	185	1400	0.25	0.1	47
MMBZ5266B	KP1	68	64.60	71.40	1.8	230	1600	0.25	0.1	52
MMBZ5267B	KP2	75	71.25	78.75	1.7	270	1700	0.25	0.1	56
MMBZ5268B	KP3	82	77.90	86.10	1.5	330	2000	0.25	0.1	62
MMBZ5270B	KP4	91	86.45	95.55	1.4	400	2300	0.25	0.1	69

CHARACTERISTIC CURVES

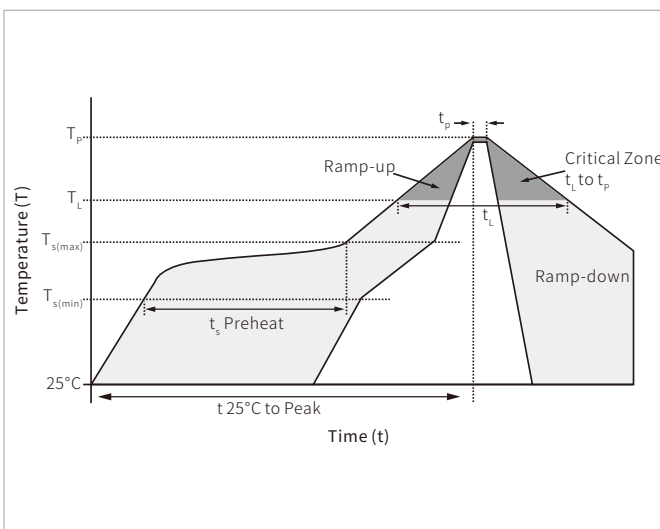


Temperature Coefficients

Typical Leakage Current

Typical Capacitance

Effect of Zener Voltage on Zener Impedance


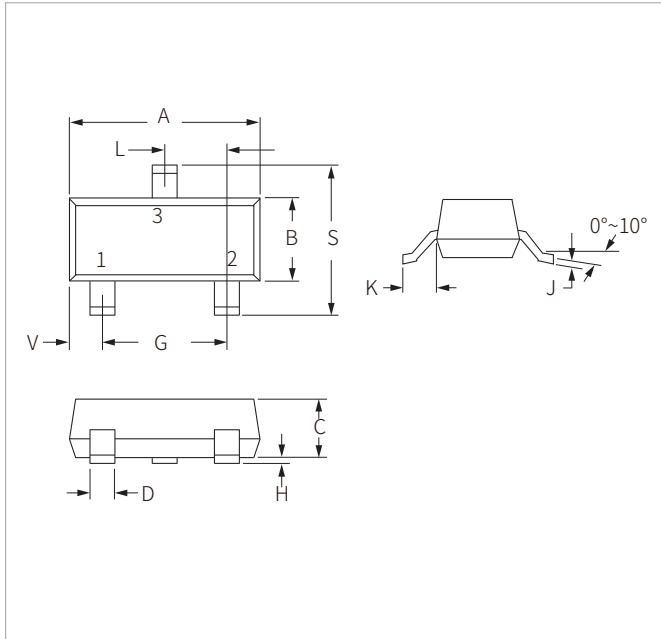
Power Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

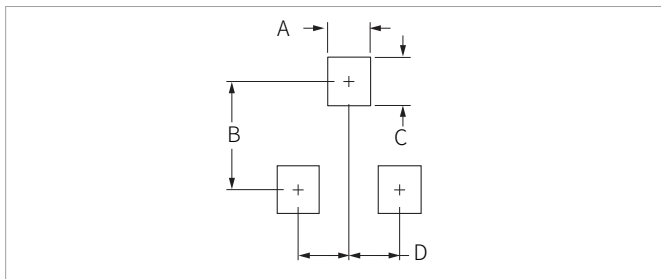


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMBZ5221B-MMBZ5270B	SOT-23	3000PCS	7"

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By QR Code

Website



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