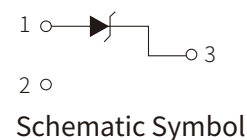


FEATURES

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



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 ⁽³⁾	R _{θJA}	417	°C/W
Thermal Resistance, Junction-to-Lead ⁽³⁾	R _{θJL}	150	°C/W
Storage temperature range	T _S	-65 to +150	°C

1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm²

2) Short duration test pulse used to minimize self-heating effect

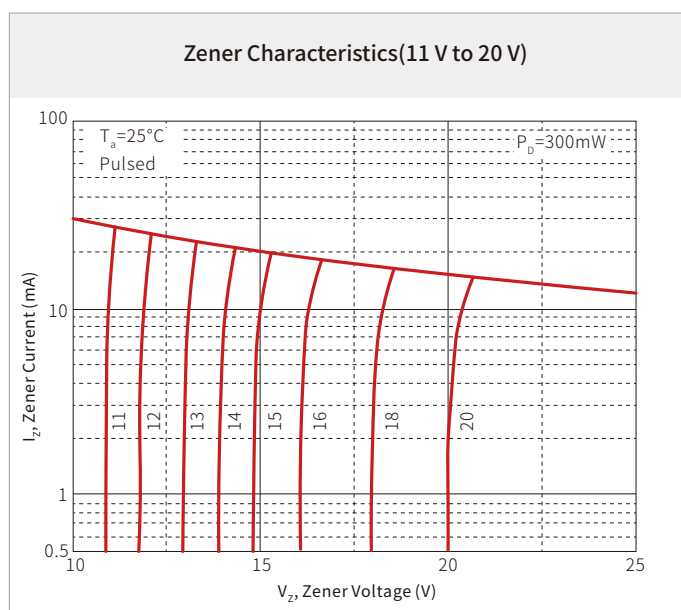
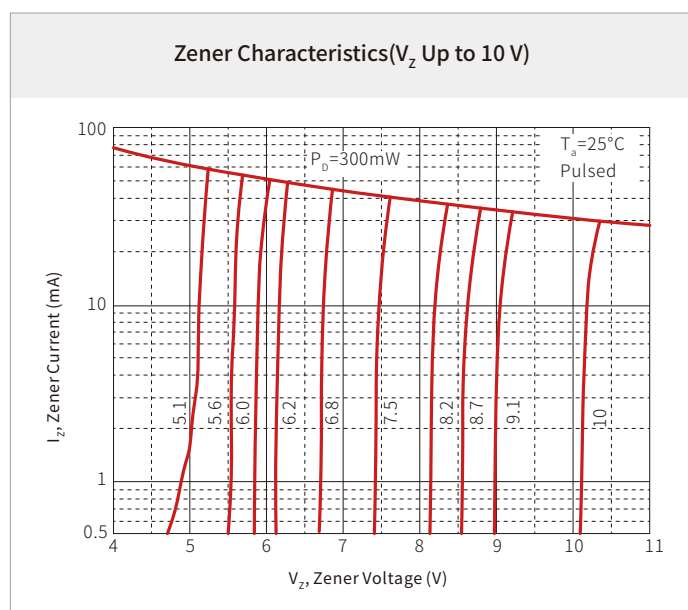
3) Thermal Resistance measurement obtained via infrared Scan Method

ELECTRICAL CHARACTERISTICS

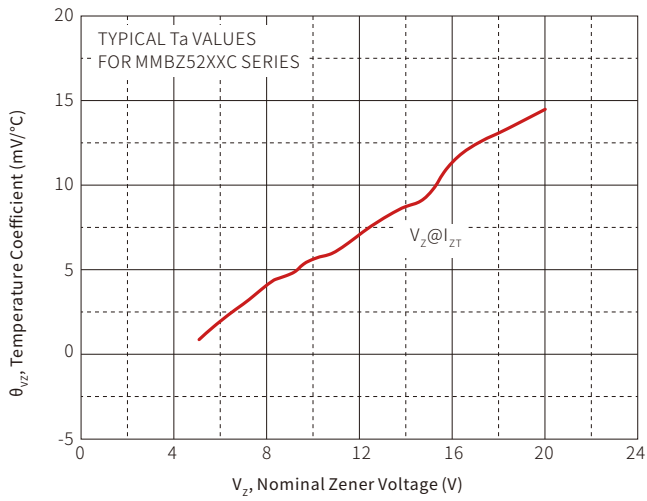
Part Number	Device Marking Code	Zener Voltage Range			Maximum Zener Impedance			Maximum Reverse Current	
		$V_Z @ I_{ZT}$		I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		I_R	V_R
		Min(V)	Max(V)	(mA)	(Ω)	(mA)		(μ A)	(V)
MMBZ5221C	2KC1	2.35	2.45	20	30	1200	0.25	100	1.0
MMBZ5222C	2KC2	2.45	2.55	20	30	1250	0.25	100	1.0
MMBZ5223C	2KC3	2.65	2.75	20	30	1300	0.25	75	1.0
MMBZ5225C	2KC5	2.94	3.06	20	30	1600	0.25	50	1.0
MMBZ5226C	2KG1	3.23	3.37	20	28	1600	0.25	25	1.0
MMBZ5227C	2KG2	3.53	3.67	20	24	1700	0.25	15	1.0
MMBZ5228C	2KG3	3.82	3.98	20	23	1900	0.25	10	1.0
MMBZ5229C	2KG4	4.21	4.39	20	22	2000	0.25	5.0	1.0
MMBZ5230C	2KG5	4.61	4.79	20	19	1900	0.25	5.0	2.0
MMBZ5231C	2KE1	5.00	5.20	20	17	1600	0.25	5.0	2.0
MMBZ5232C	2KE2	5.49	5.71	20	11	1600	0.25	5.0	3.0
MMBZ5233C	2KE3	5.88	6.12	20	7	1600	0.25	5.0	3.5
MMBZ5234C	2KE4	6.08	6.32	20	7	1000	0.25	5.0	4.0
MMBZ5235C	2KE5	6.66	6.94	20	5	750	0.25	3	5.0
MMBZ5236C	2KF1	7.35	7.65	20	6	500	0.25	3	6.0
MMBZ5237C	2KF2	8.04	8.36	20	8	500	0.25	3	6.5
MMBZ5238C	2KF3	8.53	8.87	20	8	600	0.25	3	6.5
MMBZ5239C	2KF4	8.92	9.28	20	10	600	0.25	3	7.0
MMBZ5240C	2KF5	9.80	10.20	20	17	600	0.25	3	8.0
MMBZ5241C	2KH1	10.78	11.22	20	22	600	0.25	2.0	8.4
MMBZ5242C	2KH2	11.72	12.24	20	30	600	0.25	1.0	9.1
MMBZ5243C	2KH3	12.74	13.26	9.5	13	600	0.25	0.5	9.9
MMBZ5244C	2KH4	13.72	14.28	9.0	15	600	0.25	0.1	10
MMBZ5245C	2KH5	14.70	15.30	8.5	16	600	0.25	0.1	11
MMBZ5246C	2KJ1	15.68	16.32	7.8	17	600	0.25	0.1	12
MMBZ5247C	2KJ2	16.66	17.34	7.5	19	600	0.25	0.1	13
MMBZ5248C	2KJ3	17.64	18.36	7.0	21	600	0.25	0.1	14
MMBZ5249C	2KJ4	18.62	19.38	6.6	23	600	0.25	0.1	14
MMBZ5250C	2KJ5	19.60	20.40	6.2	25	600	0.25	0.1	15
MMBZ5251C	2KK1	21.56	22.44	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
		Min(V)	Max(V)	(mA)	(Ω)	(mA)		(μ A)	(V)
MMBZ5252C	2KK2	23.52	24.48	5.2	33	600	0.25	0.1	18
MMBZ5253C	2KK3	24.50	25.50	5.0	35	600	0.25	0.1	19
MMBZ5254C	2KK4	26.46	27.54	5.0	41	600	0.25	0.1	21
MMBZ5255C	2KK5	27.44	28.56	4.5	44	600	0.25	0.1	21
MMBZ5256C	2KM1	29.40	30.60	4.2	49	600	0.25	0.1	23
MMBZ5257C	2KM2	32.34	33.66	3.8	58	700	0.25	0.1	25
MMBZ5258C	2KM3	35.28	36.72	3.4	70	700	0.25	0.1	27
MMBZ5259C	2KM4	38.22	39.78	3.2	80	800	0.25	0.1	30

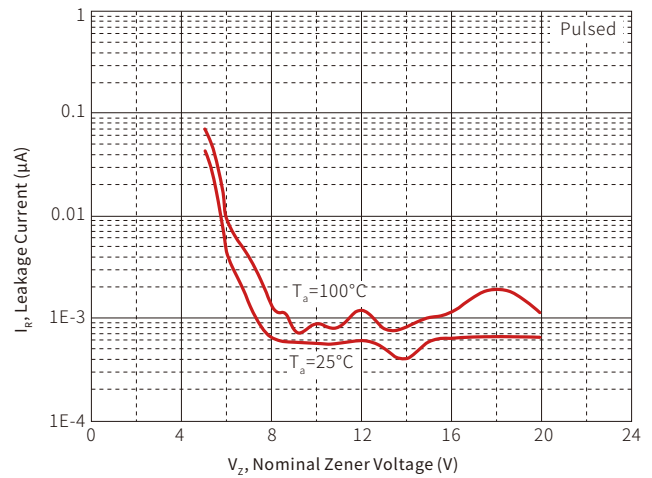
CHARACTERISTIC CURVES



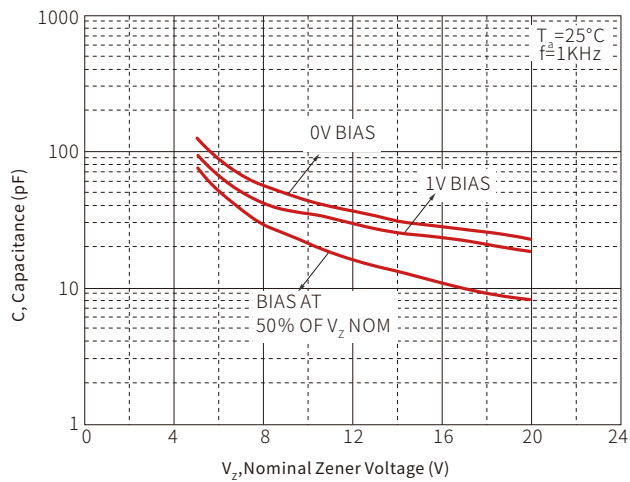
Temperature Coefficients



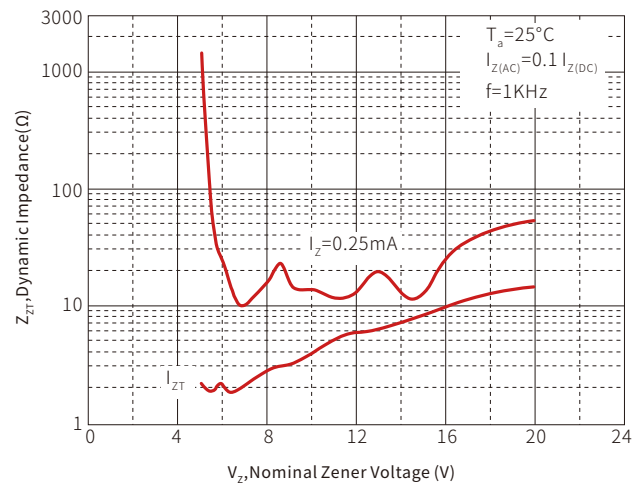
Typical Leakage Current

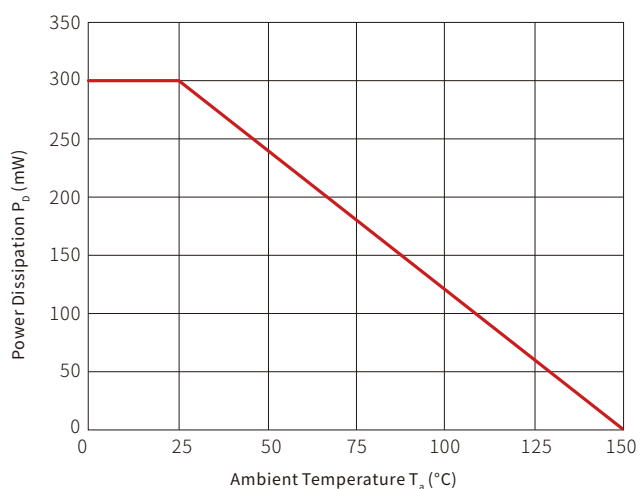


Typical Capacitance



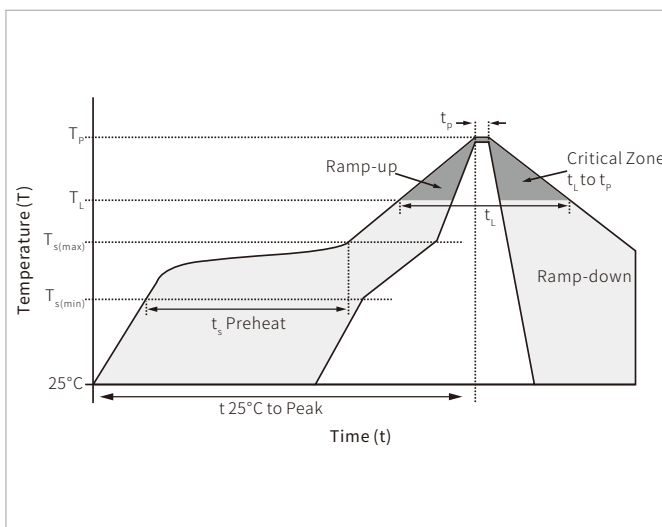
Effect of Zener Voltage on Zener Impedance



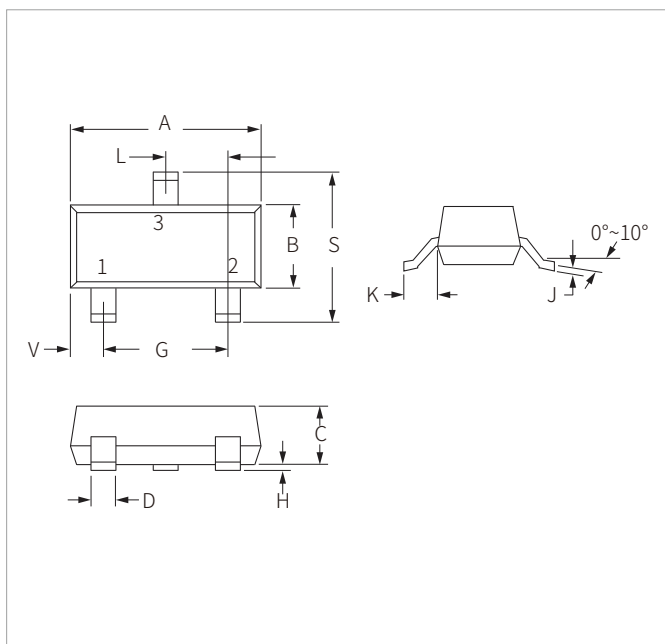
Power Derating Curve


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

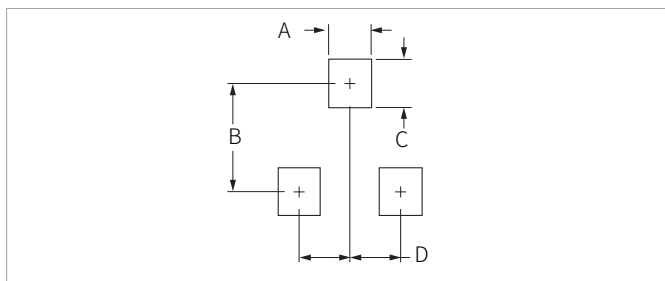


SOT-23 PACKAGE INFORMATION



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
MMBZ5221C-MMBZ5259C	SOT-23	3000PCS	7"

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