



# MMBZ5221BS - MMBZ5259BS

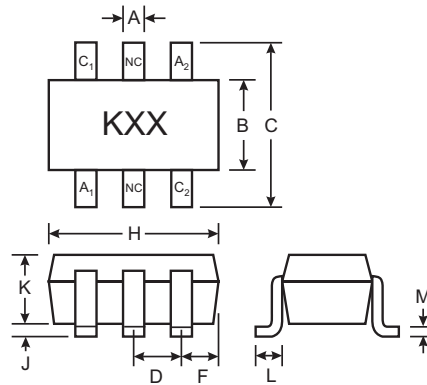
200mW SURFACE MOUNT ZENER DIODE

## Features

- Planar Die Construction
- Dual Isolated Zeners in Ultra-Small Surface Mount Package
- General Purpose
- Ideally Suited for Automated Assembly Processes

## Mechanical Data

- Case: SOT-363, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: Marking Code (See Table on Page 2)
- Weight: 0.006 grams (approx.)



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
All Dimensions in mm		

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Zener Current	—	$P_d/V_Z$	—
Forward Voltage @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Power Dissipation (Note 1)	$P_d$	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	K/W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150	$^\circ\text{C}$

- Notes:
1. Valid provided that device terminals are kept at ambient temperature.
  2. Tested with pulses,  $T_p \leq 1.0\text{ms}$ .

**Electrical Characteristics** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

Type Number	Marking Code	Zener Voltage Range (Note 2)			Test Current	Maximum Zener Impedance		Maximum Reverse Leakage Current	
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK} = 0.25\text{mA}$	$I_R$	@ $V_R$
		Nom (V)	Min (V)	Max (V)	mA	$\Omega$		$\mu\text{A}$	V
MMBZ5221BS	KC1	2.4	2.28	2.52	20	30	1200	100	1.0
MMBZ5223BS	KC3	2.7	2.57	2.84	20	30	1300	75	1.0
MMBZ5225BS	KC5	3.0	2.85	3.15	20	30	1600	50	1.0
MMBZ5226BS	KG1	3.3	3.14	3.47	20	28	1600	25	1.0
MMBZ5227BS	KG2	3.6	3.42	3.78	20	24	1700	15	1.0
MMBZ5228BS	KG3	3.9	3.71	4.10	20	23	1900	10	1.0
MMBZ5229BS	KG4	4.3	4.09	4.52	20	22	2000	5.0	1.0
MMBZ5230BS	KG5	4.7	4.47	4.94	20	19	1900	5.0	2.0
MMBZ5231BS	KE1	5.1	4.85	5.36	20	17	1600	5.0	2.0
MMBZ5232BS	KE2	5.6	5.32	5.88	20	11	1600	5.0	3.0
MMBZ5234BS	KE4	6.2	5.89	6.51	20	7.0	1000	5.0	4.0
MMBZ5235BS	KE5	6.8	6.46	7.14	20	5.0	750	3.0	5.0
MMBZ5236BS	KF1	7.5	7.13	7.88	20	6.0	500	3.0	6.0
MMBZ5237BS	KF2	8.2	7.79	8.61	20	8.0	500	3.0	6.5
MMBZ5239BS	KF4	9.1	8.65	9.56	20	10	600	3.0	7.0
MMBZ5240BS	KF5	10	9.50	10.50	20	17	600	3.0	8.0
MMBZ5241BS	KH1	11	10.45	11.55	20	22	600	2.0	8.4
MMBZ5242BS	KH2	12	11.40	12.60	20	30	600	1.0	9.1
MMBZ5243BS	KH3	13	12.35	13.65	9.5	13	600	0.5	9.9
MMBZ5245BS	KH5	15	14.25	15.75	8.5	16	600	0.1	11
MMBZ5246BS	KJ1	16	15.20	16.80	7.8	17	600	0.1	12
MMBZ5248BS	KJ3	18	17.10	18.90	7.0	21	600	0.1	14
MMBZ5250BS	KJ5	20	19.00	21.00	6.2	25	600	0.1	15
MMBZ5251BS	KK1	22	20.90	23.10	5.6	29	600	0.1	17
MMBZ5252BS	KK2	24	22.80	25.20	5.2	33	600	0.1	18
MMBZ5254BS	KK4	27	25.65	28.35	5.0	41	600	0.1	21
MMBZ5256BS	KM1	30	28.50	31.50	4.2	49	600	0.1	23
MMBZ5257BS	KM2	33	31.35	34.65	3.8	58	700	0.1	25
MMBZ5258BS	KM3	36	34.20	37.80	3.4	70	700	0.1	27
MMBZ5259BS	KM4	39	37.05	40.95	3.2	80	800	0.1	30

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2. Tested with pulses,  $T_p \leq 1.0\text{ms}$ .

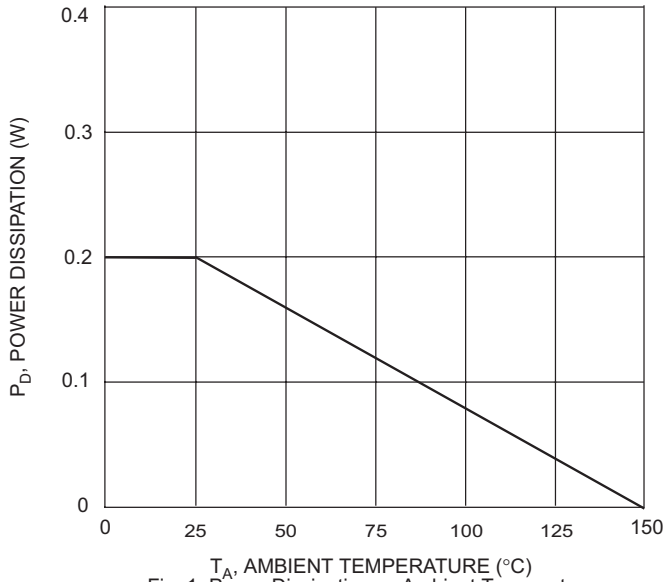


Fig. 1 Power Dissipation vs Ambient Temperature

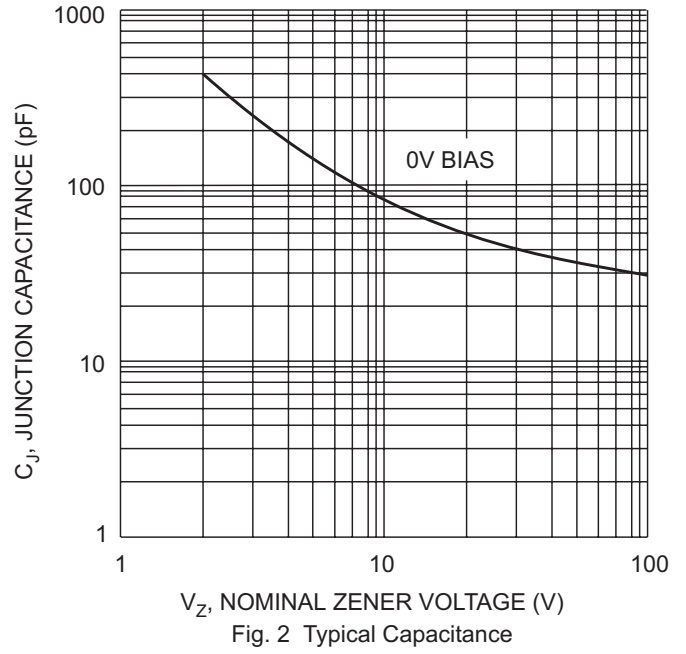


Fig. 2 Typical Capacitance

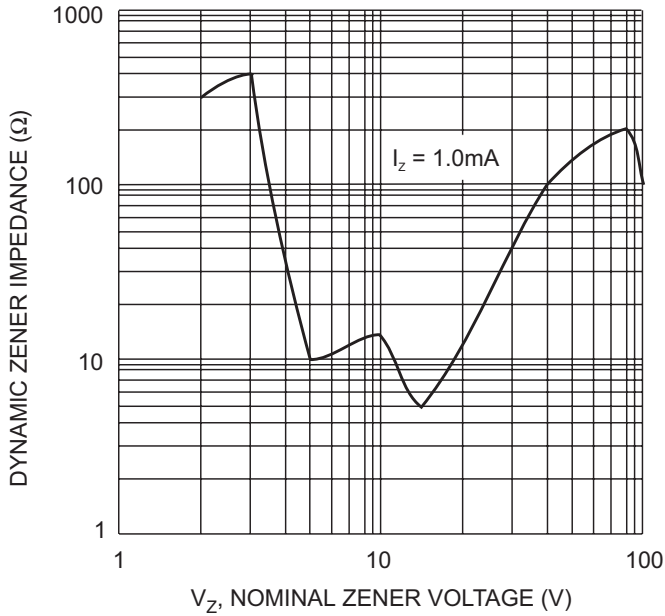


Fig. 3 Zener Voltage vs. Zener Impedance

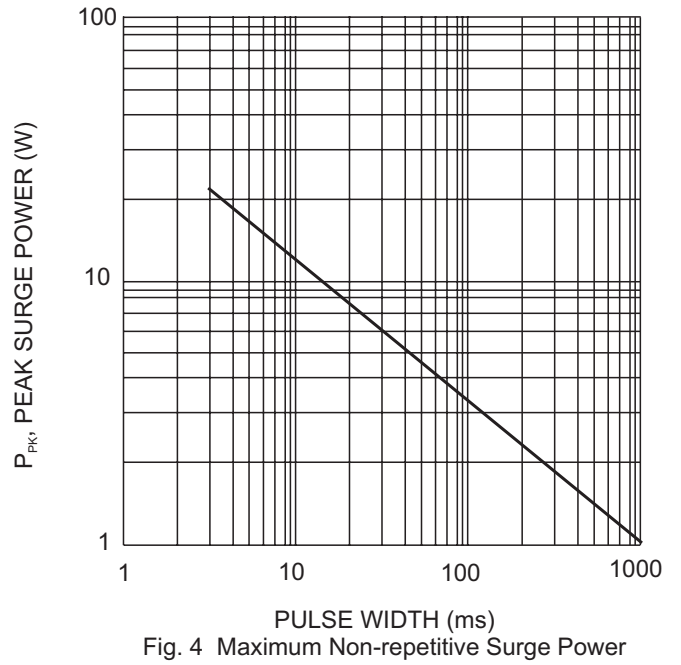


Fig. 4 Maximum Non-repetitive Surge Power