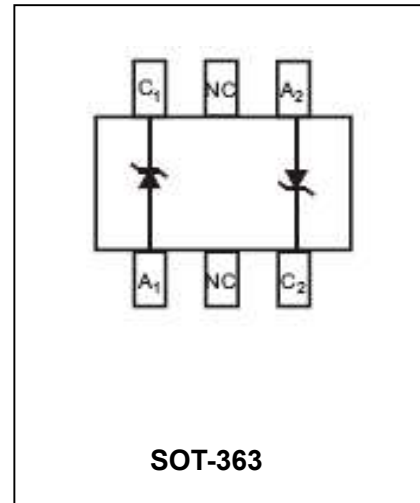


## 200mW SURFACE MOUNT ZENER DIODE

## MMBZ5221BS-5259BS

### FEATURES

- Planar Die Construction.
- General purpose, medium current.
- Ideally Suited For Automated Assembly Processes.



### APPLICATIONS

- 200mw Surface mount zener diode.

### ORDERING INFORMATION

Type No.	Marking	Package Code
MMBZ5221BS-MMBZ5259BS□	See Table on page2	SOT-363

□: none is for Lead Free package;  
“G” is for Halogen Free package.

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage@I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Power Dissipation	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient Air	R <sub>θjA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-65 to +150	°C

Notes: 1. Valid provided that device terminals are kept at ambient temperature.  
2. Tested with pulses, T<sub>P</sub> ≤ 1.0ms.

## 200mW SURFACE MOUNT ZENER DIODE      MMBZ5221BS-5259BS

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Type Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance		Maximum Reverse Leakage Current	
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub> =0.25mA	I <sub>R</sub>	V <sub>R</sub>
		Nom(V)	Min(V)	Max(V)	(mA)	(Ω)		(μA)	(V)
MMBZ5221BS	KC1	2.4	2.28	2.52	20	30	1200	100	1.0
MMBZ5222BS	KC2	2.5	2.38	2.63	20	30	1250	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
MMBZ5233BS	KE3	6.0	5.7	6.30	20	7	1600	5.0	3.5
MMBZ5234BS	KE4	6.2	5.89	6.51	20	7	1000	5.0	4.0
MMBZ5235BS	KE5	6.8	6.46	7.14	20	5	750	3.0	5.0
MMBZ5236BS	KF1	7.5	7.13	7.88	20	6	500	3.0	6.0
MMBZ5237BS	KF2	8.2	7.79	8.61	20	8	500	3.0	6.5
MMBZ5238BS	KF3	8.7	8.27	9.14	20	8	600	3.0	6.5
MMBZ5239BS	KF4	9.1	8.65	9.56	20	10	600	3.0	7.0
MMBZ5240BS	KF5	10	9.5	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

## 200mW SURFACE MOUNT ZENER DIODE MMBZ5221BS-5259BS

Type Number	Marking Code	Zener Voltage Range				Maximum Zener Impedance		Maximum Reverse Leakage Current	
		$V_Z@I_{ZT}$			$I_{ZT}$	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}=0.25mA$	$I_R$	$V_R$
		Nom(V)	Min(V)	Max(V)	(mA)	( $\Omega$ )		( $\mu A$ )	(V)
MMBZ5244BS	KH4	14	13.30	14.70	9.0	15	600	0.1	10
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	17.1	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
MMBZ5255BS	KK5	28	26.60	29.40	4.5	44	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

### TYPICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified

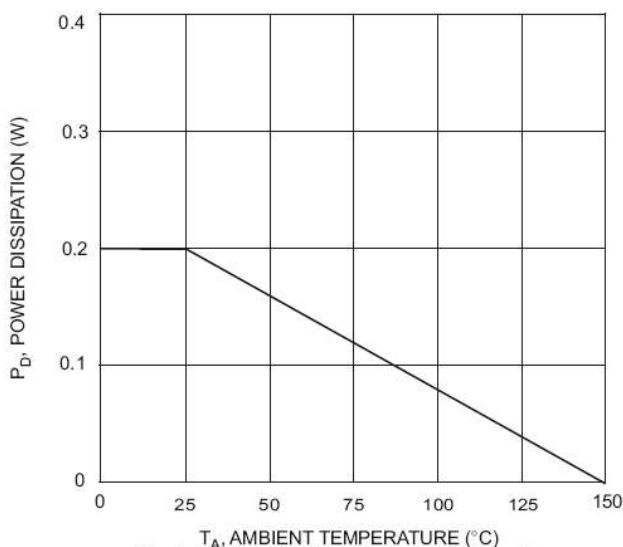


Fig. 1 Power Dissipation vs Ambient Temperature

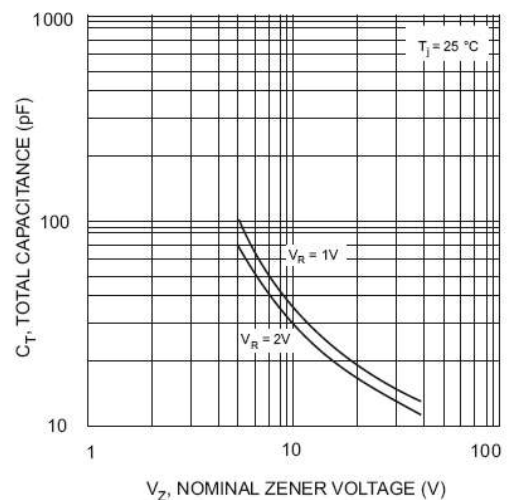


Fig. 2 Total Capacitance vs Nominal Zener Voltage

200mW SURFACE MOUNT ZENER DIODE

MMBZ5221BS-5259BS

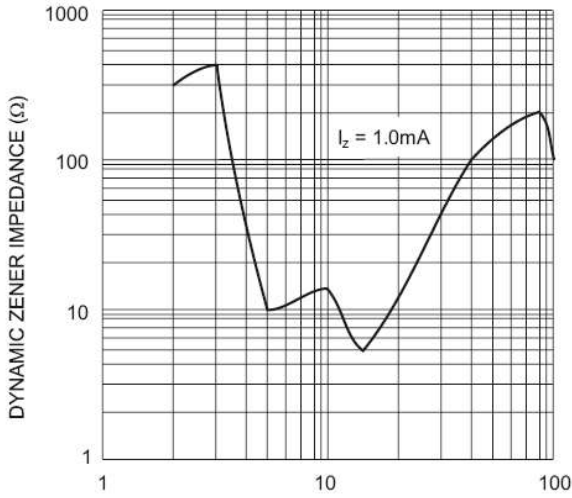


Fig. 3 Zener Voltage vs. Zener Impedance

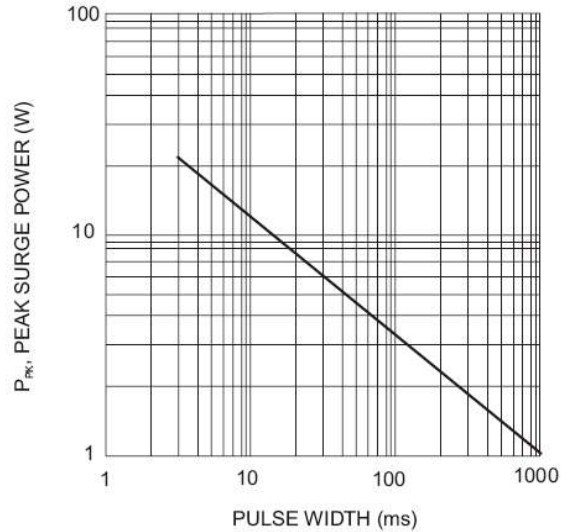


Fig. 4 Maximum Non-repetitive Surge Power

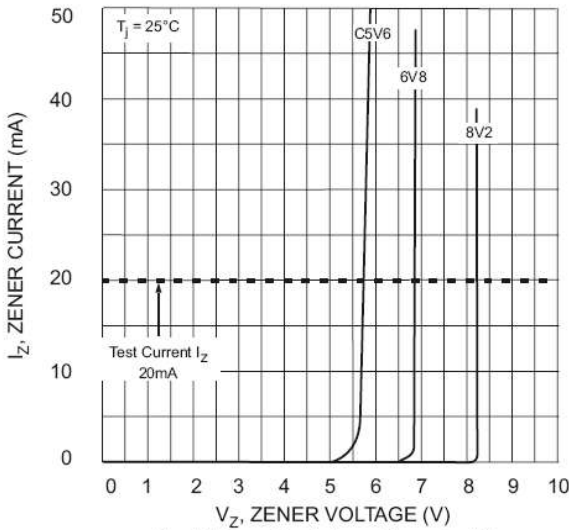


Fig. 5 Zener Breakdown Characteristics

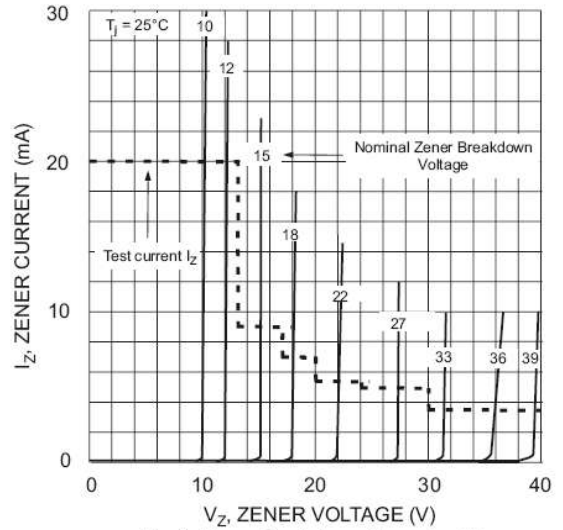


Fig. 6 Zener Breakdown Characteristics

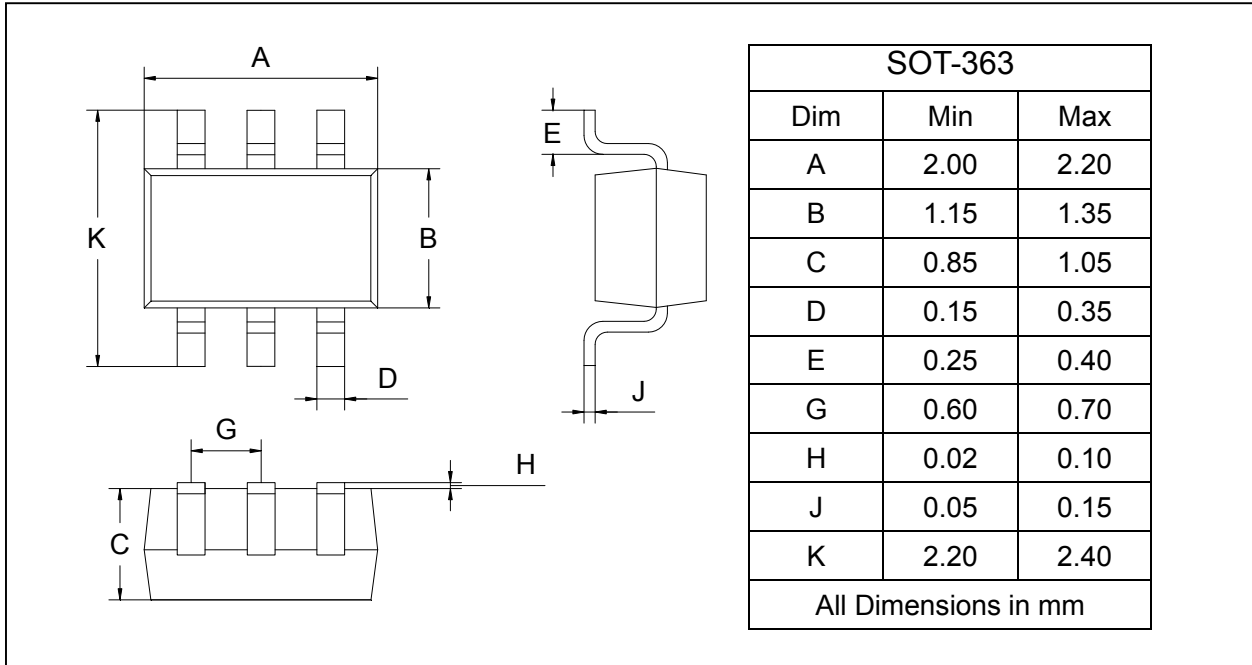
**200mW SURFACE MOUNT ZENER DIODE**

**MMBZ5221BS-5259BS**

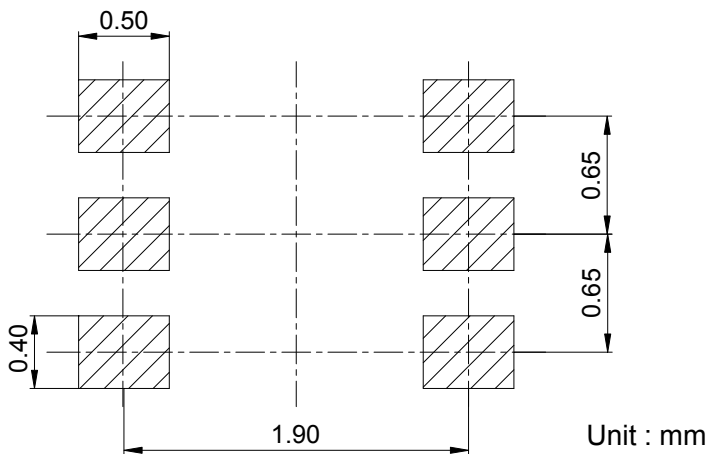
**PACKAGE OUTLINE**

Plastic surface mounted package

SOT-363



**SOLDERING FOOTPRINT**



**PACKAGE INFORMATION**

Device	Package	Shipping
MMBZ5221BS- MMBZ5259BS	SOT-363	3000/Tape&Reel