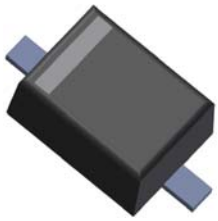
DATA SHEET

SEMICONDUCTOR

MM3ZxxVB Series

200mW SOD-323 SURFACE MOUNT
Small Outline Flat Lead Plastic Package
Zener Voltage Regulators



SOD-323 Flat Lead

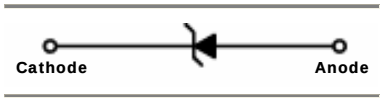
Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_{OPR}	Operating Temperature Range	-55 to +150	°C

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of ±2% (B Series)
- Flat Lead SOD-323 Small Outline Plastic Package
- Surface Device Type Mounting
- Moisture Sensitivity Level 1
- Clip Bonding Construction, Good Thermal Capability
- Pb Free Version and RoHS Compliant
- Matte Tin(Sn) Lead Finish with Nickel(Ni) Underplate
- Band Indicates Cathode



ELECTRICAL SYMBOL

Electrical Characteristics T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min	Nom	Max						
MM3Z2V4B	0Z	2.35	2.4	2.45	5	94	1	564	45	1
MM3Z2V7B	1Z	2.65	2.7	2.75	5	94	1	564	18	1
MM3Z3V0B	2Z	2.94	3.0	3.06	5	89	1	564	9	1
MM3Z3V3B	3Z	3.23	3.3	3.37	5	89	1	564	4.5	1
MM3Z3V6B	4Z	3.53	3.6	3.67	5	84	1	564	4.5	1
MM3Z3V9B	5Z	3.82	3.9	3.98	5	84	1	564	2.7	1
MM3Z4V3B	6Z	4.21	4.3	4.39	5	84	1	564	2.7	1
MM3Z4V7B	7Z	4.61	4.7	4.79	5	75	1	470	2.7	2
MM3Z5V1B	8Z	5.00	5.1	5.20	5	56	1	451	1.8	2
MM3Z5V6B	9Z	5.49	5.6	5.71	5	37	1	376	0.9	2
MM3Z6V2B	AZ	6.08	6.2	6.32	5	9	1	141	2.7	4
MM3Z6V8B	BZ	6.66	6.8	6.94	5	14	1	75	1.8	4
MM3Z7V5B	CZ	7.35	7.5	7.65	5	14	1	75	0.9	5
MM3Z8V2B	DZ	8.04	8.2	8.36	5	14	1	75	0.63	5
MM3Z9V1B	EZ	8.92	9.1	9.28	5	14	1	94	0.45	6
MM3Z10VB	FZ	9.80	10	10.20	5	18	1	141	0.18	7
MM3Z11VB	GZ	10.78	11	11.22	5	18	1	141	0.09	8
MM3Z12VB	HZ	11.76	12	12.24	5	23	1	141	0.09	8
MM3Z13VB	JZ	12.74	13	13.26	5	28	1	160	0.09	8
MM3Z15VB	KZ	14.70	15	15.30	5	28	1	188	0.045	10.5
MM3Z16VB	LZ	15.68	16	16.32	5	37	1	188	0.045	11.2
MM3Z18VB	MZ	17.64	18	18.36	5	42	1	212	0.045	12.6
MM3Z20VB	NZ	19.60	20	20.40	5	51	1	212	0.045	14.0

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min	Nom	Max						
MM3Z22VB	PZ	21.56	22	22.44	5	51	1	235	0.045	15.4
MM3Z24VB	RZ	23.52	24	24.48	5	65	1	235	0.045	16.8
MM3Z27VB	SZ	26.46	27	27.54	5	75	0.5	282	0.045	18.9
MM3Z30VB	TZ	29.40	30	30.60	5	75	0.5	282	0.045	21.0
MM3Z33VB	UZ	32.34	33	33.66	5	75	0.5	306	0.045	23.0
MM3Z36VB	VZ	35.28	36	36.72	5	84	0.5	329	0.045	25.2
MM3Z39VB	WZ	38.22	39	39.78	5	122	0.5	329	0.045	27.3
MM3Z43VB	XZ	42.14	43	43.86	5	141	0.5	353	0.045	30.1
MM3Z47VB	YZ	46.06	47	47.94	5	160	0.5	353	0.045	33.0
MM3Z51VB	−Z	49.98	51	52.02	5	169	0.5	376	0.045	35.7
MM3Z56VB	=Z	54.88	56	57.12	5	188	0.5	400	0.045	39.2
MM3Z62VB	≡Z	60.76	62	63.24	5	202	0.5	423	0.045	43.4
MM3Z68VB	>Z	66.64	68	69.36	5	226	0.5	447	0.045	47.6
MM3Z75VB	<Z	73.50	75	76.50	5	240	0.5	470	0.045	52.5

V_F Forward Voltage = 1 V Maximum @ I_F = 10 mA for all types

Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±2%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest YEASHIN Electronics representative.
4. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

DEVICE CHARACTERISTICS

MM3ZxxVB Series

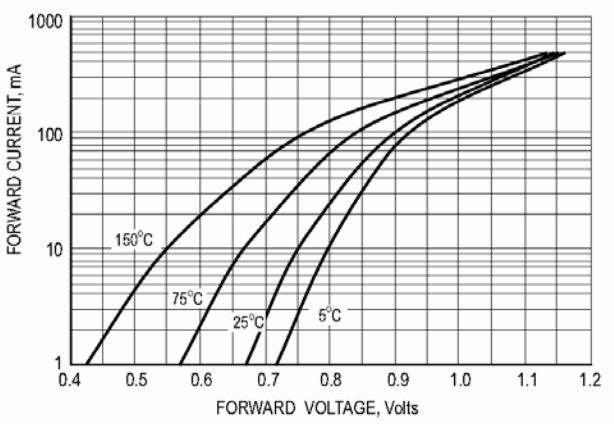


Fig.1 TYPICAL FORWARD VOLTAGE

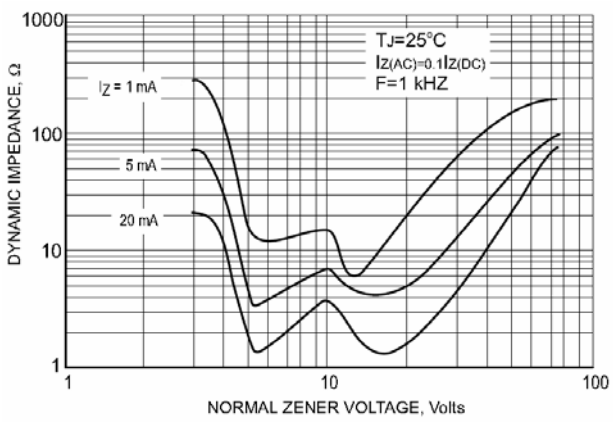


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

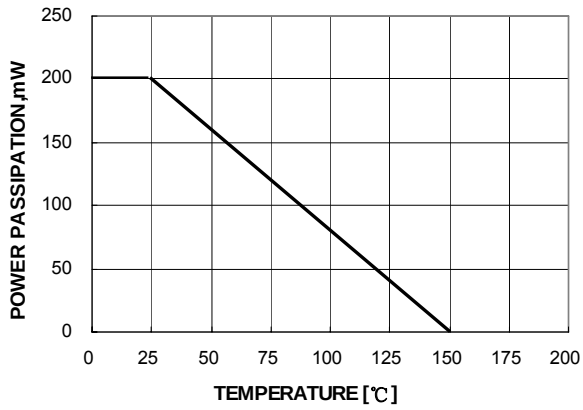


Fig.3 POWER DISSIPATION VS. AMBIENT TEMP.

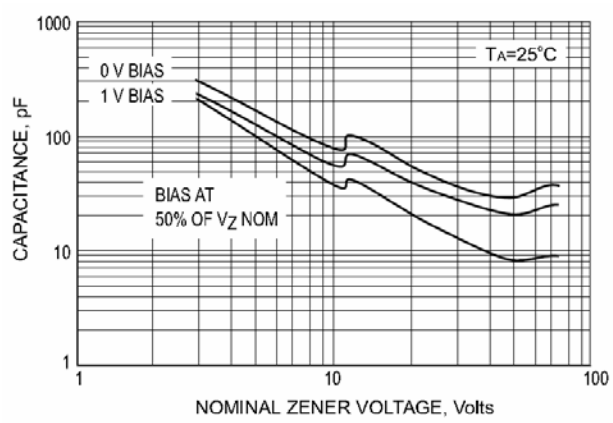


Fig.4 TYPICAL CAPACITANCE

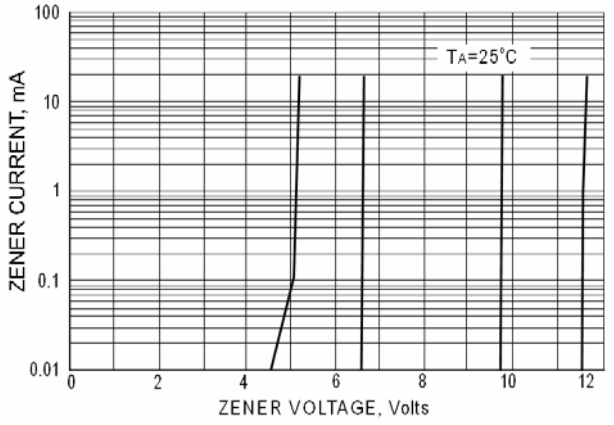


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

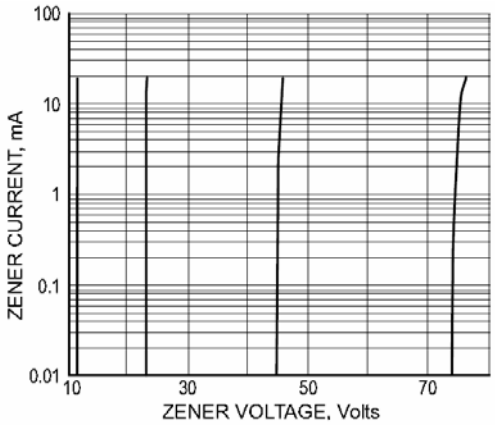


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

PACKAGE OUTLINE & DIMENSIONS

MM3ZxxVB Series

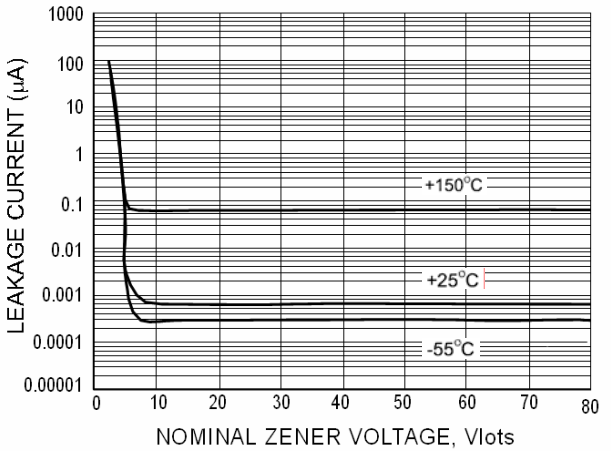
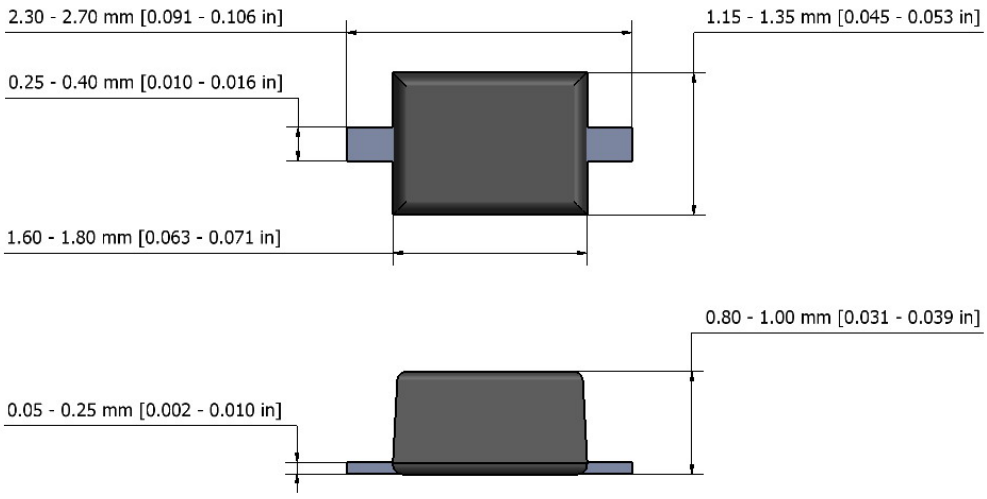


Fig.7 TYPICAL LEAKGE CURRENT

SOD-323 Package Outline



NOTES:
1. The above package outline is similar to JEITA SC-90.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.