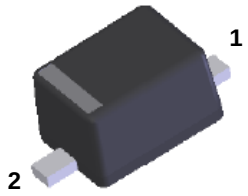
FAIRCHILD SEMICONDUCTOR®

October 2010

MM3Z2V4B-MM3Z75VB
Zener Diodes

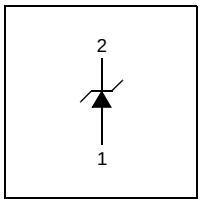
Features

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of ±2% (B Series)
- Very Small and Thin SMD package
- Matte Tin(Sn) finish, Pb Free



* Band Denotes Cathode **SOD-323F**

Connection Diagram



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	-65 to +150	°C
T_J	Maximum Junction Temperature	150	°C
I_{ZM}	Maximum Regulator Current	P_D/V_Z	mA

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

Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	595	°C/W

* Device mounted on FR-4 PCB minimum land pad.

Electrical Characteristics T_A = 25°C unless otherwise specified

Symbol	Parameter/ Test condition	Min.	Typ.	Max.	Unit
V_F	Forward Voltage / I_F=10mA	--	--	1.0	V

Package Marking and Ordering Information

Device Marking	Device	Package	Packing	Reel Size	Tape Width	Quantity
Refer to Product table list	Refer to Product table list	SOD-323F	Tape & Reel	7’	12mm	3,000

Electrical Characteristics T_A=25°C unless otherwise noted

Device Type	Device Marking	V_Z (V) @ I_{ZT}			Z_{ZT}(Ω) @ I_{ZT}	I_{ZT} (mA)	Z_{ZK}(Ω) @ I_{ZK}	I_{ZK} (mA)	I_R(μA) @ V_R	V_R(V)
		Min.	Typ.	Max.	Max.	-	Max.	-	Max	-
MM3Z2V4B	0Z	2.35	2.4	2.45	94	5	564	1	45	1
MM3Z2V7B	1Z	2.65	2.7	2.75	94	5	564	1	18	1
MM3Z3V0B	2Z	2.94	3.0	3.06	89	5	564	1	9	1
MM3Z3V3B	3Z	3.23	3.3	3.37	89	5	564	1	4.5	1
MM3Z3V6B	4Z	3.53	3.6	3.67	84	5	564	1	4.5	1
MM3Z3V9B	5Z	3.82	3.9	3.98	84	5	564	1	2.7	1
MM3Z4V3B	6Z	4.21	4.3	4.39	84	5	564	1	2.7	1
MM3Z4V7B	7Z	4.61	4.7	4.79	75	5	470	1	2.7	2
MM3Z5V1B	8Z	5.00	5.1	5.20	56	5	451	1	1.8	2
MM3Z5V6B	9Z	5.49	5.6	5.71	37	5	376	1	0.9	2
MM3Z6V2B	AZ	6.08	6.2	6.32	9	5	141	1	2.7	4
MM3Z6V8B	BZ	6.66	6.8	6.94	14	5	75	1	1.8	4
MM3Z7V5B	CZ	7.35	7.5	7.65	14	5	75	1	0.9	5
MM3Z8V2B	DZ	8.04	8.2	8.36	14	5	75	1	0.63	5
MM3Z9V1B	EZ	8.92	9.1	9.28	14	5	94	1	0.45	6
MM3Z10VB	FZ	9.80	10	10.20	18	5	141	1	0.18	7
MM3Z11VB	GZ	10.78	11	11.22	18	5	141	1	0.09	8
MM3Z12VB	HZ	11.76	12	12.24	23	5	141	1	0.09	8
MM3Z13VB	JZ	12.74	13	13.26	28	5	160	1	0.09	8
MM3Z15VB	KZ	14.70	15	15.30	28	5	188	1	0.045	10.5
MM3Z16VB	LZ	15.68	16	16.32	37	5	188	1	0.045	11.2
MM3Z18VB	MZ	17.64	18	18.36	42	5	212	1	0.045	12.6
MM3Z20VB	NZ	19.60	20	20.40	51	5	212	1	0.045	14.0
MM3Z22VB	PZ	21.56	22	22.44	51	5	235	1	0.045	15.4
MM3Z24VB	RZ	23.52	24	24.48	65	5	235	1	0.045	16.8
MM3Z27VB	SZ	26.46	27	27.54	75	2	282	0.5	0.045	18.9
MM3Z30VB	TZ	29.40	30	30.60	75	2	282	0.5	0.045	21.0
MM3Z33VB	UZ	32.34	33	33.66	75	2	306	0.5	0.045	23.0
MM3Z36VB	VZ	35.28	36	36.72	84	2	329	0.5	0.045	25.2
MM3Z39VB	WZ	38.22	39	39.78	122	2	329	0.5	0.045	27.3
MM3Z43VB	XZ	42.14	43	43.86	141	2	353	0.5	0.045	30.1
MM3Z47VB	YZ	46.06	47	47.94	160	2	353	0.5	0.045	33.0
MM3Z51VB	_Z	49.98	51	52.02	169	2	376	0.5	0.045	35.7
MM3Z56VB	=Z	54.88	56	57.12	188	2	400	0.5	0.045	39.2
MM3Z62VB	≡Z	60.76	62	63.24	202	2	423	0.5	0.045	43.4
MM3Z68VB	>Z	66.64	68	69.36	226	2	447	0.5	0.045	47.6
MM3Z75VB	<Z	73.5	75	76.50	240	2	470	0.5	0.045	52.5

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. 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}.

Typical Performance Characteristics

Figure 1. Zener current vs. Zener Voltage

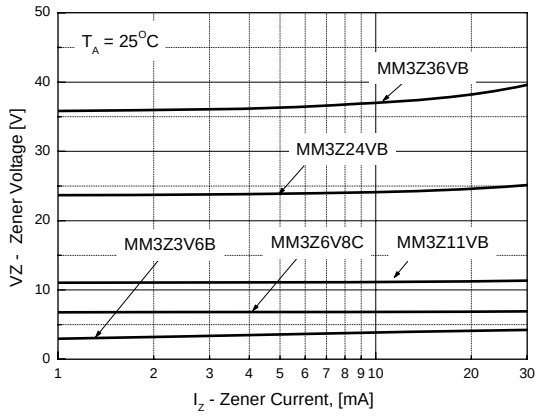


Figure 2. Zener current vs. Zener Impedence

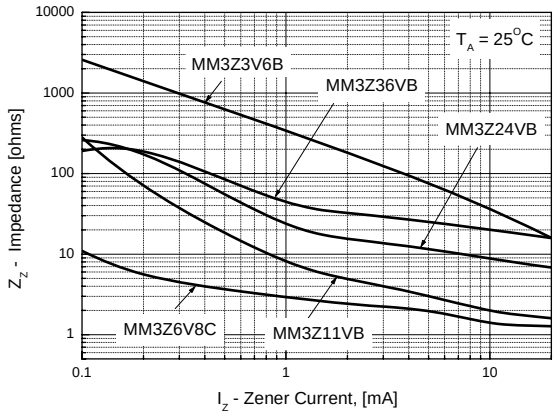


Figure 3. MM3Z3V6B Zener current vs. Zener Voltage

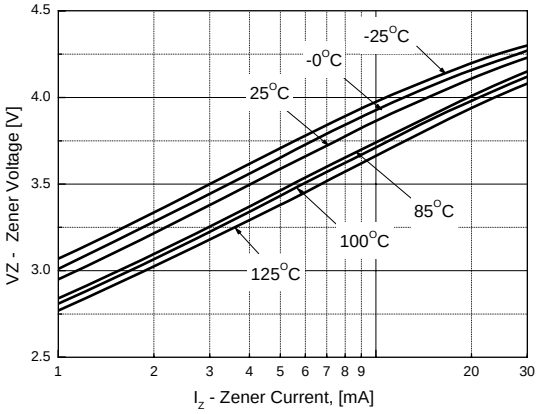


Figure 4. MM3Z6V8C Zener current vs. Zener Voltage

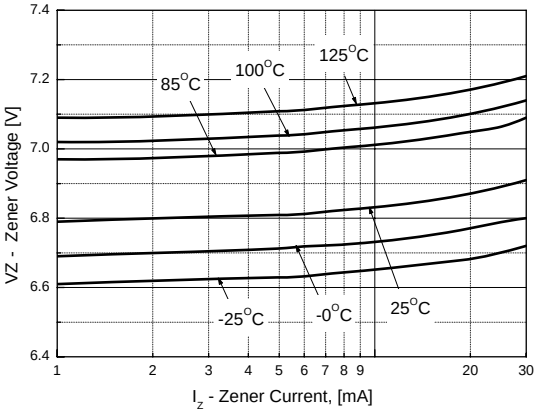


Figure 5. MM3Z11VB Zener current vs. Zener Voltage

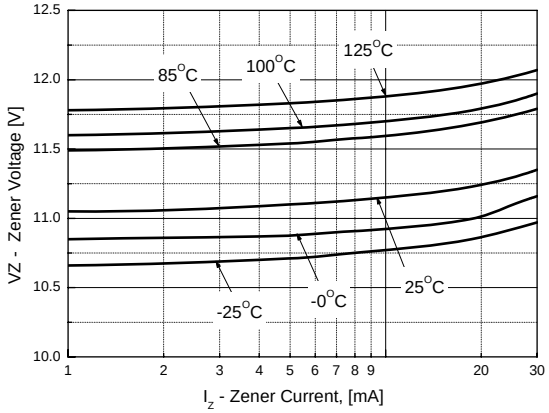
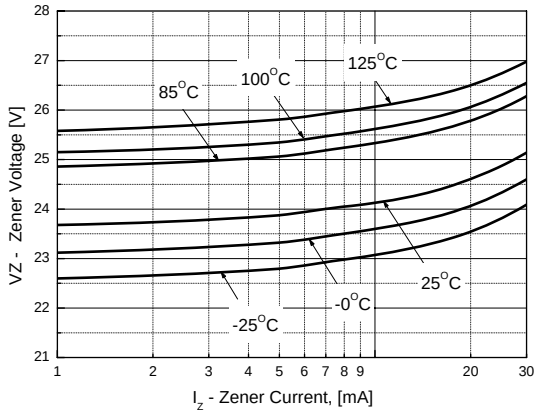
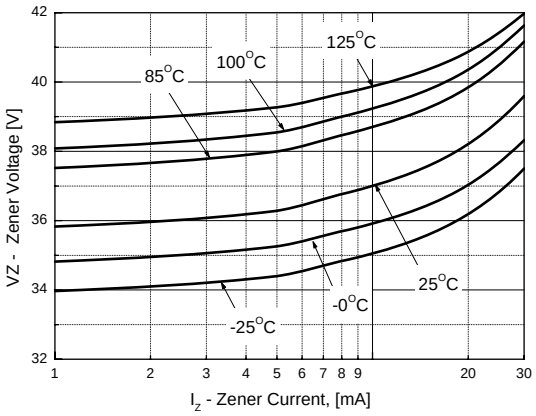


Figure 6. MM3Z24VB Zener current vs. Zener Voltage



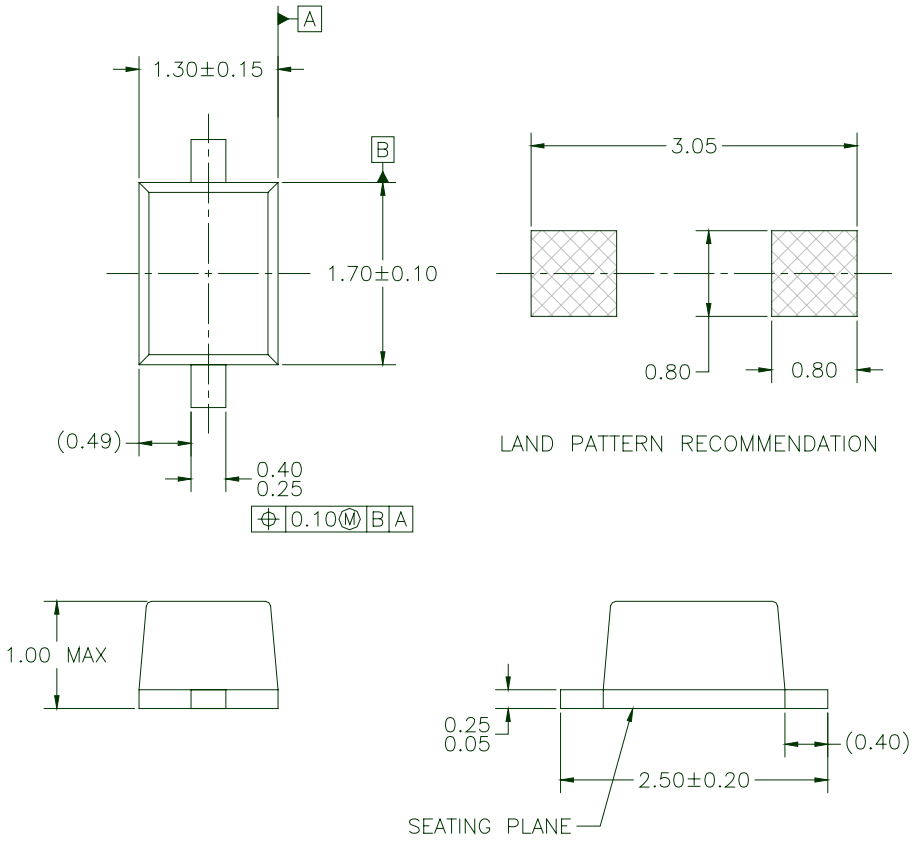
Typical Performance Characteristics (Continued)

Figure 7. MM3Z36VB
Zener current vs. Zener Voltage



Physical Dimensions

SOD-323F



NOTES: UNLESS OTHERWISE SPECIFIED

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D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M – 1994.

Dimensions in Millimeters

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