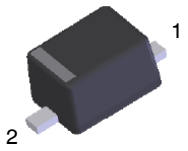
Zener Diodes

MM3Z2V4B-MM3Z75VB

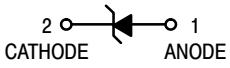


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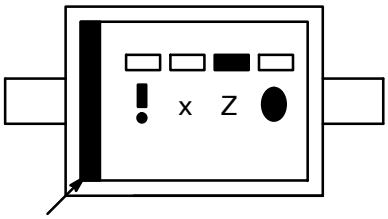
Features

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

CONNECTION DIAGRAM



MARKING DIAGRAM



= Calendar Year
= Site Location
xZ = Specific Device Code
x = 1, 2, 3
= Payweek

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
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

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise specified)

Symbol	Parameter/Test Condition	Min	Typ	Max	Unit
V_F	Forward Voltage / I_F = 10 mA	–	–	1.0	V

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

ORDERING INFORMATION

See detailed ordering and shipping information on page 5 of this data sheet.

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PRODUCT TABLE (T_A = 25°C unless otherwise noted)

Device Type	Device Marking	V_Z (V) @ I_{ZT}			Z_{ZT}(∧) @ I_{ZT}	I_{ZT} (mA)	Z_{ZK}(∧) @ 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

1. The Zener voltage (V_Z) is tested under pulse condition of 10 mS.
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

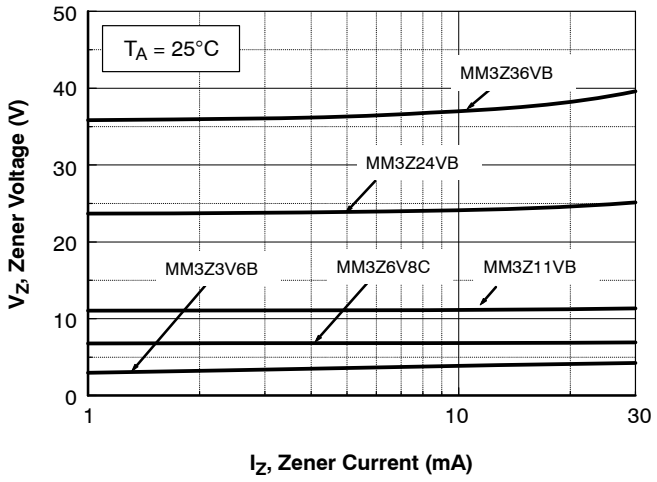


Figure 1. Zener Current vs. Zener Voltage

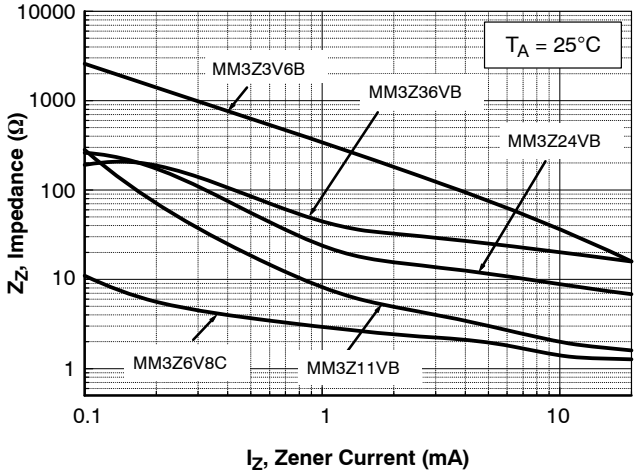


Figure 2. Zener Current vs. Zener Impedance

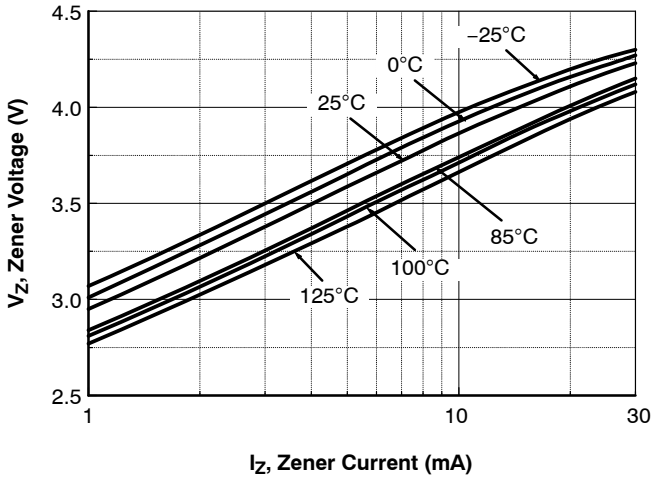


Figure 3. MM3Z3V6B − Zener Current vs. Zener Voltage

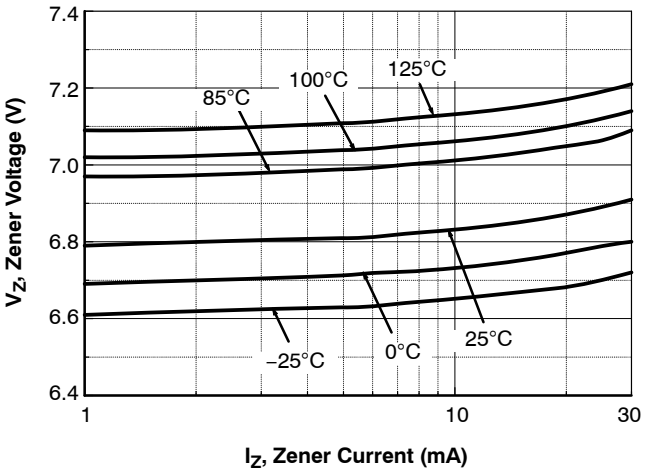


Figure 4. MM3Z6V8C − Zener Current vs. Zener Voltage

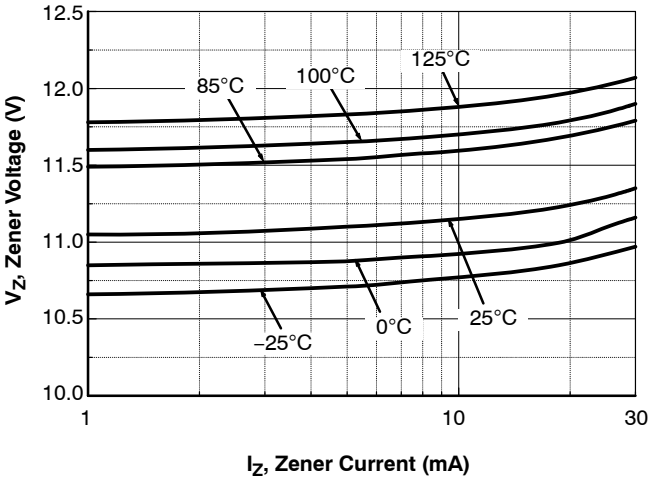


Figure 5. MM3Z11VB − Zener Current vs. Zener Voltage

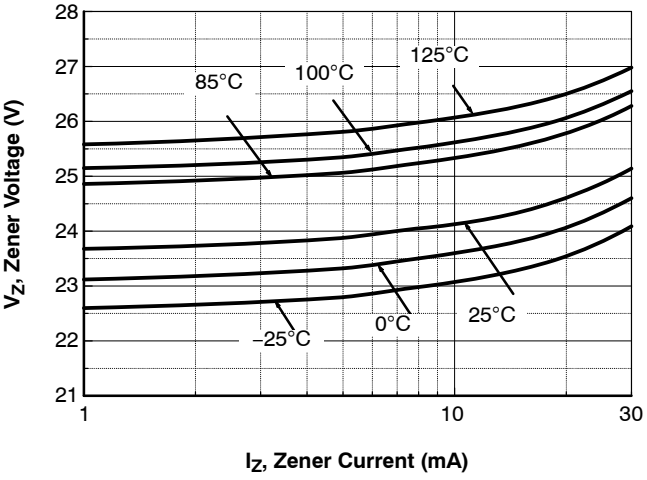


Figure 6. MM3Z24VB − Zener Current vs. Zener Voltage

TYPICAL PERFORMANCE CHARACTERISTICS (CONTINUED)

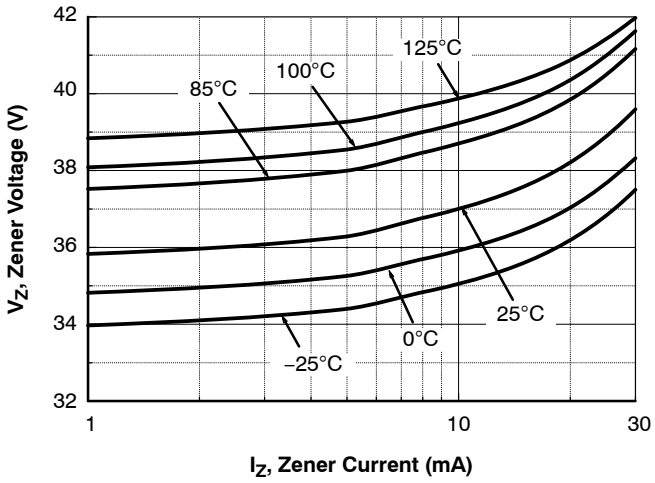
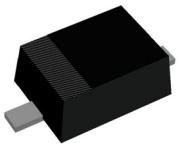


Figure 7. MM3Z36VB − Zener Current vs. Zener Voltage

ORDERING INFORMATION

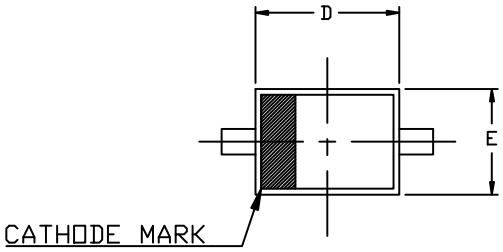
Device	Package	Shipping†
MM3Z10VB	SOD−323FL (Pb−Free)	3000 / Tape & Reel
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MM3Z12VB		
MM3Z13VB		
MM3Z15VB		
MM3Z16VB		
MM3Z18VB		
MM3Z20VB		
MM3Z22VB		
MM3Z24VB		
MM3Z27VB		
MM3Z2V4B		
MM3Z2V7B		
MM3Z30VB		
MM3Z33VB		
MM3Z36VB		
MM3Z39VB		
MM3Z3V0B		
MM3Z3V3B		
MM3Z3V6B		
MM3Z3V9B		
MM3Z43VB		
MM3Z47VB		
MM3Z4V3B		
MM3Z4V7B		
MM3Z51VB		
MM3Z56VB		
MM3Z5V1B		
MM3Z5V6B		
MM3Z62VB		
MM3Z68VB		
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MM3Z9V1B		

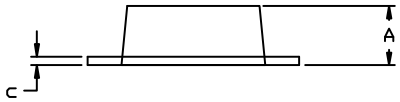
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

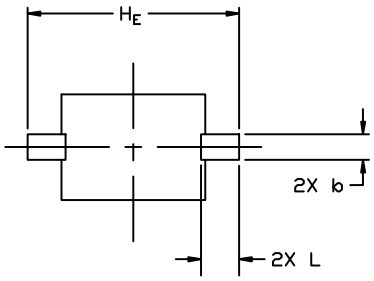


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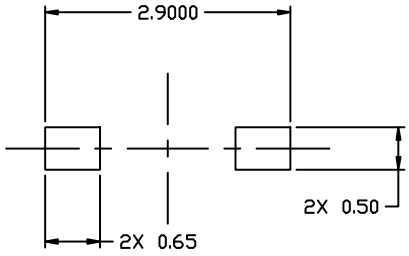




NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. LEAD THICKNESS INCLUDES LEAD FINISH.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		
DIM	MIN.	NOM	MAX.
A	0.60	0.70	0.90
A1	0.00	0.05	0.10
b	0.25	0.30	0.35
c	0.05	0.10	0.20
D	1.60	1.70	1.80
E	1.15	1.25	1.35
H_E	2.30	2.50	2.70
L	0.35	0.45	0.55



RECOMMENDED
MOUNTING FOOTPRINT

* For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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