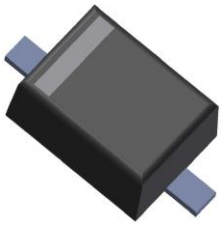
200mW SOD-323 SURFACE MOUNT
Small Outline Flat Lead Plastic Package
Zener Voltage Regulators

Green Product



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	-65 to +150	°C
T_{OPR}	Operating Temperature Range	-65 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, 2.0V to 75V
- VZ Tolerance Selection of ±5% (C Series)
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode
- Weight: approx. 0.004g
- AEC-Q101 Qualified

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						
MM3Z2V0CW	Z+	1.90	2.0	2.10	5	100	1	564	120	0.5
MM3Z2V2CW	Z⊥	2.09	2.2	2.31	5	100	1	564	120	0.7
MM3Z2V4CW	Z0	2.28	2.4	2.52	5	100	1	564	45	1
MM3Z2V7CW	Z1	2.57	2.7	2.84	5	100	1	564	18	1
MM3Z3V0CW	Z2	2.85	3.0	3.15	5	100	1	564	9	1
MM3Z3V3CW	Z3	3.14	3.3	3.47	5	95	1	564	4.5	1
MM3Z3V6CW	Z4	3.42	3.6	3.78	5	90	1	564	4.5	1
MM3Z3V9CW	Z5	3.71	3.9	4.10	5	90	1	564	2.7	1
MM3Z4V3CW	Z6	4.09	4.3	4.52	5	90	1	564	2.7	1
MM3Z4V7CW	Z7	4.47	4.7	4.94	5	80	1	470	2.7	2
MM3Z5V1CW	Z8	4.85	5.1	5.36	5	60	1	451	1.8	2
MM3Z5V6CW	Z9	5.32	5.6	5.88	5	40	1	376	0.9	2
MM3Z6V2CW	ZA	5.89	6.2	6.51	5	10	1	141	2.7	4
MM3Z6V8CW	ZB	6.46	6.8	7.14	5	15	1	75	1.8	4
MM3Z7V5CW	ZC	7.11	7.5	7.86	5	15	1	75	0.9	5
MM3Z8V2CW	ZD	7.79	8.2	8.61	5	15	1	75	0.63	5
MM3Z9V1CW	ZE	8.65	9.1	9.56	5	15	1	94	0.45	6
MM3Z10VCW	ZF	9.50	10	10.50	5	20	1	141	0.18	7
MM3Z11VCW	ZG	10.45	11	11.55	5	20	1	141	0.09	8
MM3Z12VCW	ZH	11.40	12	12.60	5	25	1	141	0.09	8

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						
MM3Z13VCW	ZJ	12.35	13	13.65	5	30	1	160	0.09	8
MM3Z15VCW	ZK	14.25	15	15.75	5	30	1	188	0.045	10.5
MM3Z16VCW	ZL	15.20	16	16.80	5	40	1	188	0.045	11.2
MM3Z18VCW	ZM	17.10	18	18.90	5	45	1	212	0.045	12.6
MM3Z20VCW	ZN	19.00	20	21.00	5	55	1	212	0.045	14.0
MM3Z22VCW	ZP	20.90	22	23.10	5	55	1	235	0.045	15.4
MM3Z24VCW	ZR	22.80	24	25.20	5	70	1	235	0.045	16.8
MM3Z27VCW	ZS	25.65	27	28.35	2	80	0.5	282	0.045	18.9
MM3Z30VCW	ZT	28.50	30	31.50	2	80	0.5	282	0.045	21.0
MM3Z33VCW	ZU	31.35	33	34.65	2	80	0.5	306	0.045	23.0
MM3Z36VCW	ZV	34.20	36	37.80	2	90	0.5	329	0.045	25.2
MM3Z39VCW	ZW	37.05	39	40.95	2	130	0.5	329	0.045	27.3
MM3Z43VCW	ZX	40.85	43	45.15	2	150	0.5	353	0.045	30.1
MM3Z47VCW	ZY	44.65	47	49.35	2	170	0.5	353	0.045	33.0
MM3Z51VCW	Z−	48.45	51	53.55	2	180	0.5	376	0.045	35.7
MM3Z56VCW	Z=	53.20	56	58.80	2	200	0.5	400	0.045	39.2
MM3Z62VCW	Z≡	58.90	62	65.10	2	215	0.5	423	0.045	43.4
MM3Z68VCW	Z>	64.60	68	71.40	2	240	0.5	447	0.045	47.6
MM3Z75VCW	Z<	71.25	75	78.75	2	255	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 ±5%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong 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}.

RATING AND CHARACTERISTIC CURVES

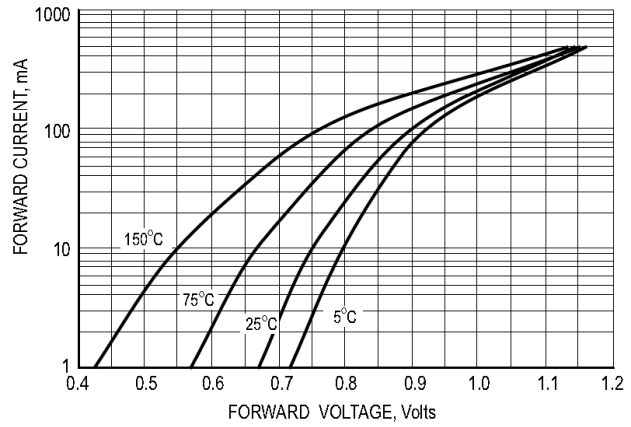


Fig.1 TYPICAL FORWARD VOLTAGE

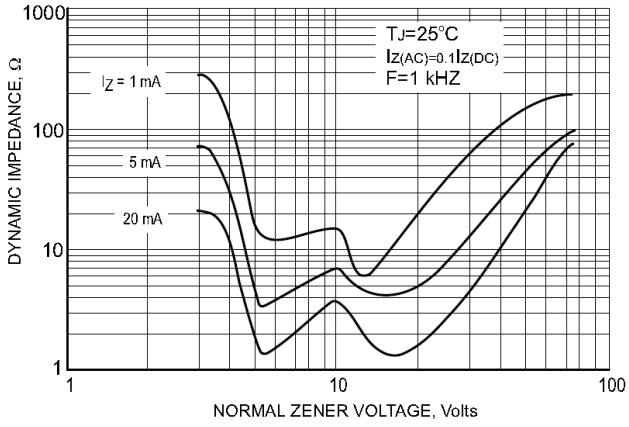


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

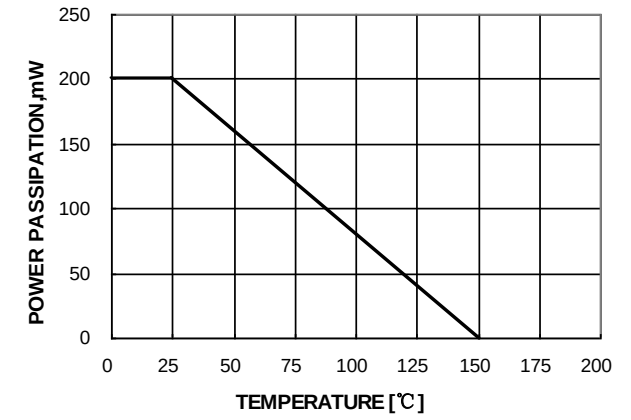


Fig.3 POWER DISSIPATION VS. AMBIENT TEMP.

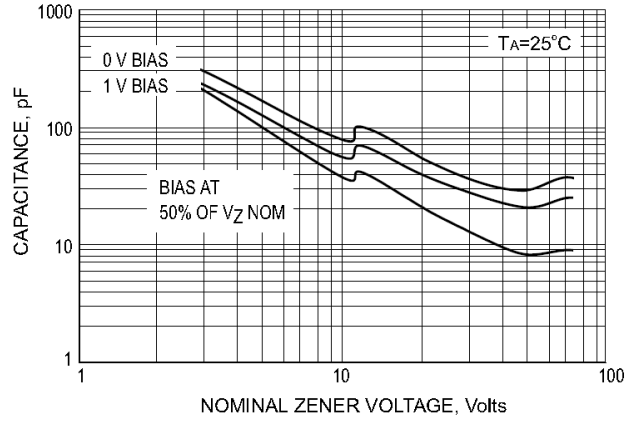


Fig.4 TYPICAL CAPACITANCE

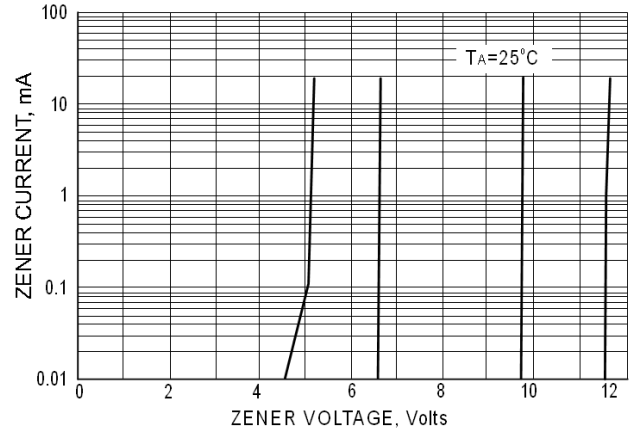


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

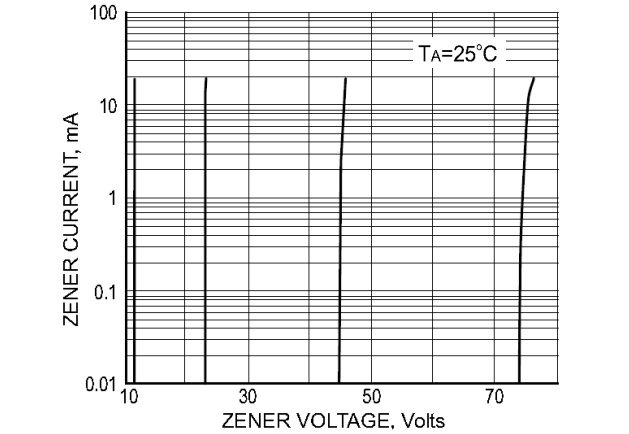


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

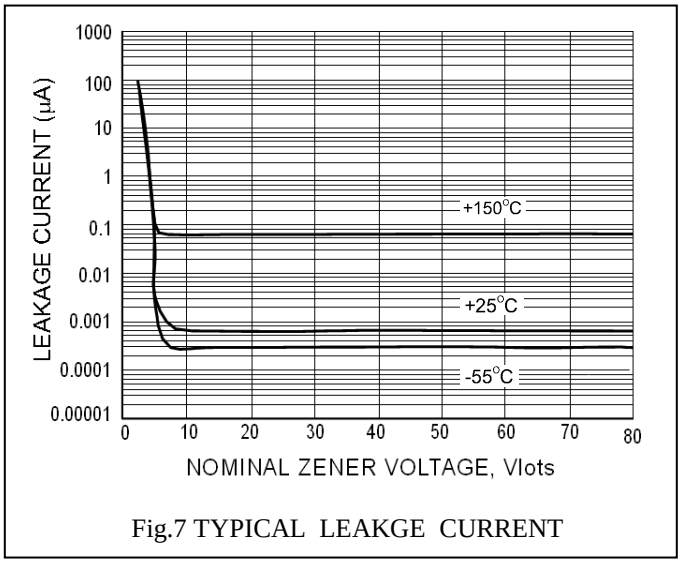
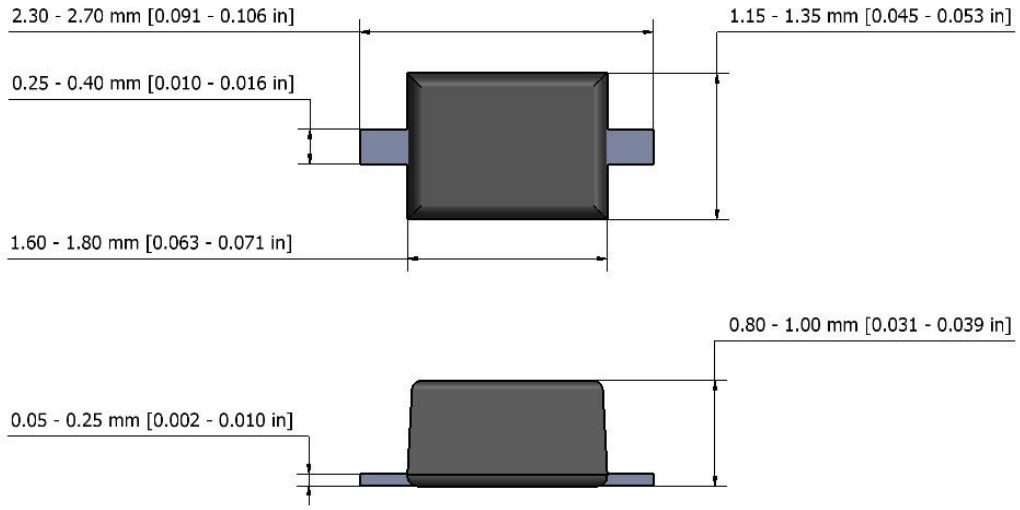


Fig.7 TYPICAL LEAKGE CURRENT

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.

NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damagers resulting from such improper use of sale.

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"AEC-Q101 QUALIFIED" Statement:

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