Chimicron

SEMICONDUCTOR

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

Green Product

Absolute Maximum Ratings
T_A = 25°C unless otherwise noted

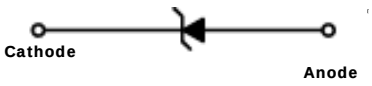
Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
T_{STG}	Storage Temperature Range	-65 to +150	°C
T_{OPR}	Operating Temperature Range	-65 to +150	°C

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

SOD-323 Gull Wing Lead

Specification Features:

- Wide Zener Voltage Range Selection, 2.0V to 75V
- VZ Tolerance Selection of ±5% (C Series)
- Gull Wing Lead SOD-323 Small Outline Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode
- Weight: approx. 0.004g



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						
MM3Z2V0CWG	Z+	1.90	2.0	2.10	5	100	1	564	120	0.5
MM3Z2V2CWG	Z⊥	2.09	2.2	2.31	5	100	1	564	120	0.7
MM3Z2V4CWG	Z0	2.28	2.4	2.52	5	100	1	564	45	1
MM3Z2V7CWG	Z1	2.57	2.7	2.84	5	100	1	564	18	1
MM3Z3V0CWG	Z2	2.85	3.0	3.15	5	100	1	564	9	1
MM3Z3V3CWG	Z3	3.14	3.3	3.47	5	95	1	564	4.5	1
MM3Z3V6CWG	Z4	3.42	3.6	3.78	5	90	1	564	4.5	1
MM3Z3V9CWG	Z5	3.71	3.9	4.10	5	90	1	564	2.7	1
MM3Z4V3CWG	Z6	4.09	4.3	4.52	5	90	1	564	2.7	1
MM3Z4V7CWG	Z7	4.47	4.7	4.94	5	80	1	470	2.7	2
MM3Z5V1CWG	Z8	4.85	5.1	5.36	5	60	1	451	1.8	2
MM3Z5V6CWG	Z9	5.32	5.6	5.88	5	40	1	376	0.9	2
MM3Z6V2CWG	ZA	5.89	6.2	6.51	5	10	1	141	2.7	4
MM3Z6V8CWG	ZB	6.46	6.8	7.14	5	15	1	75	1.8	4
MM3Z7V5CWG	ZC	7.11	7.5	7.86	5	15	1	75	0.9	5
MM3Z8V2CWG	ZD	7.79	8.2	8.61	5	15	1	75	0.63	5
MM3Z9V1CWG	ZE	8.65	9.1	9.56	5	15	1	94	0.45	6
MM3Z10VCWG	ZF	9.50	10	10.50	5	20	1	141	0.18	7
MM3Z11VCWG	ZG	10.45	11	11.55	5	20	1	141	0.09	8
MM3Z12VCWG	ZH	11.40	12	12.60	5	25	1	141	0.09	8

Number: DB-290
May 2017 Release, Revision A

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						
MM3Z13VCWG	ZJ	12.35	13	13.65	5	30	1	160	0.09	8
MM3Z15VCWG	ZK	14.25	15	15.75	5	30	1	188	0.045	10.5
MM3Z16VCWG	ZL	15.20	16	16.80	5	40	1	188	0.045	11.2
MM3Z18VCWG	ZM	17.10	18	18.90	5	45	1	212	0.045	12.6
MM3Z20VCWG	ZN	19.00	20	21.00	5	55	1	212	0.045	14.0
MM3Z22VCWG	ZP	20.90	22	23.10	5	55	1	235	0.045	15.4
MM3Z24VCWG	ZR	22.80	24	25.20	5	70	1	235	0.045	16.8
MM3Z27VCWG	ZS	25.65	27	28.35	2	80	0.5	282	0.045	18.9
MM3Z30VCWG	ZT	28.50	30	31.50	2	80	0.5	282	0.045	21.0
MM3Z33VCWG	ZU	31.35	33	34.65	2	80	0.5	306	0.045	23.0
MM3Z36VCWG	ZV	34.20	36	37.80	2	90	0.5	329	0.045	25.2
MM3Z39VCWG	ZW	37.05	39	40.95	2	130	0.5	329	0.045	27.3
MM3Z43VCWG	ZX	40.85	43	45.15	2	150	0.5	353	0.045	30.1
MM3Z47VCWG	ZY	44.65	47	49.35	2	170	0.5	353	0.045	33.0
MM3Z51VCWG	Z−	48.45	51	53.55	2	180	0.5	376	0.045	35.7
MM3Z56VCWG	Z=	53.20	56	58.80	2	200	0.5	400	0.045	39.2
MM3Z62VCWG	Z≡	58.90	62	65.10	2	215	0.5	423	0.045	43.4
MM3Z68VCWG	Z>	64.60	68	71.40	2	240	0.5	447	0.045	47.6
MM3Z75VCWG	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

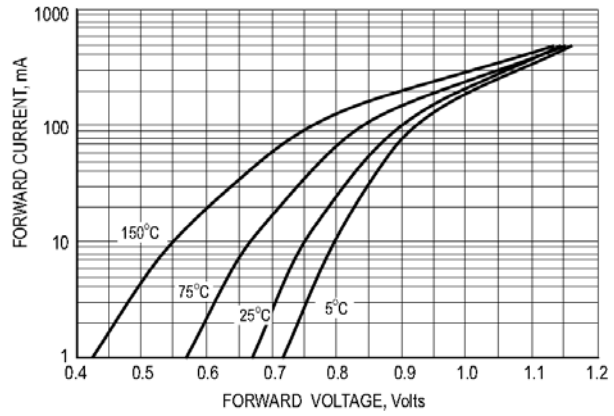


Fig.1 TYPICAL FORWARD VOLTAGE

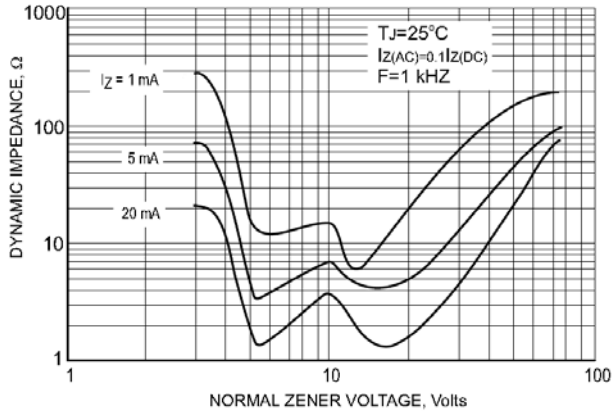


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

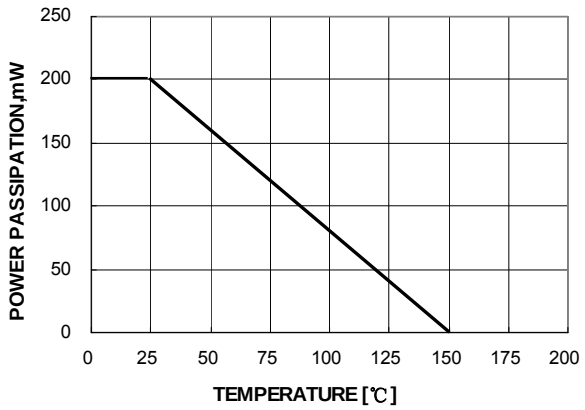


Fig.3 POWER DISSIPATION VS. AMBIENT TEMP.

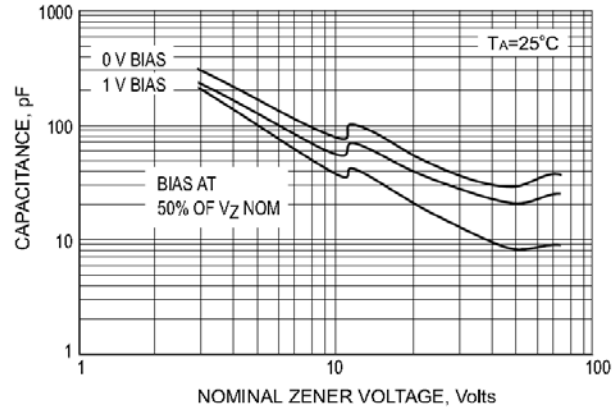


Fig.4 TYPICAL CAPACITANCE

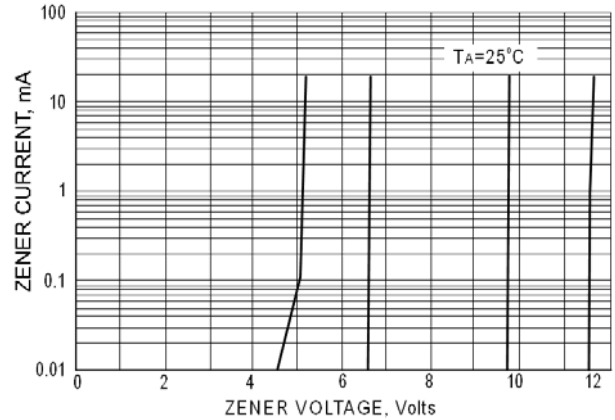


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

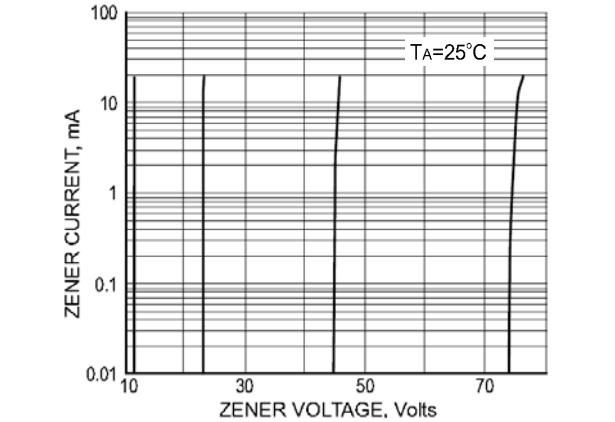


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

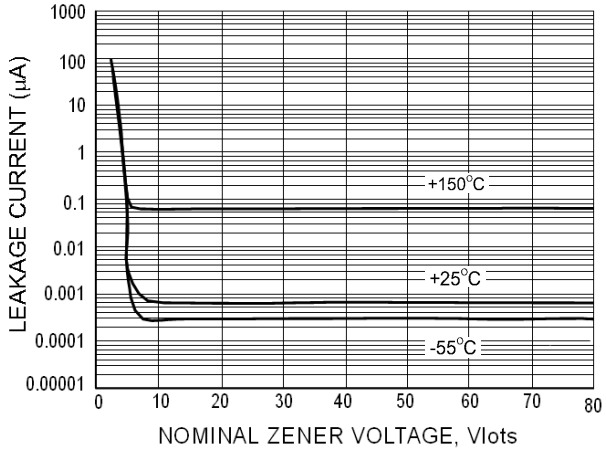
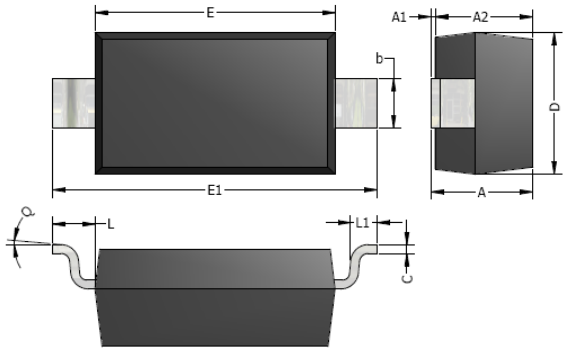
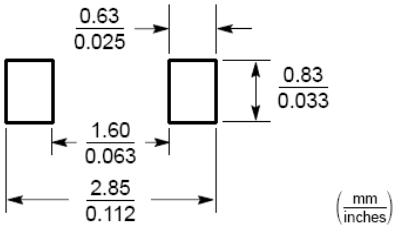


Fig.7 TYPICAL LEAKGE CURRENT

SOD-323 Gull Wing Lead Package Outline



Typical Soldering Pattern:



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.031	0.039
A1	0.00	0.10	0.000	0.004
A2	0.80	0.90	0.031	0.035
b	0.30	0.40	0.012	0.016
c	0.08	0.15	0.003	0.006
D	1.20	1.40	0.047	0.055
E	1.60	1.80	0.063	0.071
E1	2.50	2.70	0.098	0.106
L	0.475 REF.		0.019 REF.	
L1	0.25	0.40	0.010	0.016
θ	0^0	8^0	0^0	8^0

Note:
Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.