

**SURFACE MOUNT
ZENER DIODE**

**REVERSE VOLTAGE – 2.4 to 75 Volts
POWER DISSIPATION – 0.2 Watts**

FEATURES

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of $\pm 5\%$ (C Series)
- Flat Lead SOD-323F Plastic Package
- Surface Device Type Mounting
- Green EMC
- Matte Tin(Sn) Lead Finish
- RoHS compliant
- Band Indicates Cathode

MECHANICAL DATA

- Case: SOD-323F Plastic

SOD-323F

SOD-323F		
DIM.	MIN.	MAX.
A	1.60	1.80
B	2.30	2.70
C	1.15	1.35
D	0.25	0.40
E	0.80	1.00
F	0.05	0.25

All Dimensions in millimeter

Maximum Ratings & Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation	PD	200	mW
Storage Temperature Range	TSTG	-65 to +150	$^\circ\text{C}$
Operating Temperature Range	TOPR	-65 to +150	$^\circ\text{C}$

Device Marking :

Device P/N	Marking	Pin Diagram	Equivalent Circuit Diagram
MM3ZxxxCWF	See below table		

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter
V _Z	Reverse Zener Voltage @ I _{ZT}
I _{ZT}	Reverse Current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ I _{ZK}
I _R	Reverse Leakage Current @ V _R
V _R	Reverse Voltage
I _F	Forward Current
V _F	Forward Voltage @ I _F

REV.1, May-2013, KSJR14

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device	Device marking	Zener Voltage				Maximum Zener Impedance			Maximum Reverse Current	
		V _Z @ I _{ZT}			I _{ZT}	Z _{KT} @ I _{ZT}	I _{ZK}	Z _{ZK} @ I _{ZK}	I _R @ V _R	
		Min	Nom	Max	mA	Ω	mA	Ω	uA	V
MM3Z2V4CWF	Z0	2.28	2.4	2.52	5	100	1	564	45	1
MM3Z2V7CWF	Z1	2.57	2.7	2.84	5	100	1	564	18	1
MM3Z3V0CWF	Z2	2.85	3.0	3.15	5	100	1	564	9	1
MM3Z3V3CWF	Z3	3.14	3.3	3.47	5	95	1	564	4.5	1
MM3Z3V6CWF	Z4	3.42	3.6	3.78	5	90	1	564	4.5	1
MM3Z3V9CWF	Z5	3.71	3.9	4.10	5	90	1	564	2.7	1
MM3Z4V3CWF	Z6	4.09	4.3	4.52	5	90	1	564	2.7	1
MM3Z4V7CWF	Z7	4.47	4.7	4.94	5	80	1	470	2.7	2
MM3Z5V1CWF	Z8	4.85	5.1	5.36	5	60	1	451	1.8	2
MM3Z5V6CWF	Z9	5.32	5.6	5.88	5	40	1	376	0.9	2
MM3Z6V2CWF	ZA	5.89	6.2	6.51	5	10	1	141	2.7	4
MM3Z6V8CWF	ZB	6.46	6.8	7.14	5	15	1	75	1.8	4
MM3Z7V5CWF	ZC	7.11	7.5	7.86	5	15	1	75	0.9	5
MM3Z8V2CWF	ZD	7.79	8.2	8.61	5	15	1	75	0.63	5
MM3Z9V1CWF	ZE	8.65	9.1	9.56	5	15	1	94	0.45	6
MM3Z10VCWF	ZF	9.50	10	10.50	5	20	1	141	0.18	7
MM3Z11VCWF	ZG	10.45	11	11.55	5	20	1	141	0.09	8
MM3Z12VCWF	ZH	11.40	12	12.60	5	25	1	141	0.09	8
MM3Z13VCWF	ZJ	12.35	13	13.65	5	30	1	160	0.09	8
MM3Z15VCWF	ZK	14.25	15	15.75	5	30	1	188	0.045	10.5
MM3Z16VCWF	ZL	15.20	16	16.80	5	40	1	188	0.045	11.2
MM3Z18VCWF	ZM	17.10	18	18.90	5	45	1	212	0.045	12.6
MM3Z20VCWF	ZN	19.00	20	21.00	5	55	1	212	0.045	14.0
MM3Z22VCWF	ZP	20.90	22	23.10	5	55	1	235	0.045	15.4
MM3Z24VCWF	ZR	22.80	24	25.20	5	70	1	235	0.045	16.8
MM3Z27VCWF	ZS	25.65	27	28.35	2	80	0.5	282	0.045	18.9
MM3Z30VCWF	ZT	28.50	30	31.50	2	80	0.5	282	0.045	21.0
MM3Z33VCWF	ZU	31.35	33	34.65	2	80	0.5	306	0.045	23.0
MM3Z36VCWF	ZV	34.20	36	37.80	2	90	0.5	329	0.045	25.2
MM3Z39VCWF	ZW	37.05	39	40.95	2	130	0.5	329	0.045	27.3
MM3Z43VCWF	ZX	40.85	43	45.15	2	150	0.5	353	0.045	30.1
MM3Z47VCWF	ZY	44.65	47	49.35	2	170	0.5	353	0.045	33.0
MM3Z51VCWF	Z-	48.45	51	53.55	2	180	0.5	376	0.045	35.7
MM3Z56VCWF	Z=	53.20	56	58.80	2	200	0.5	400	0.045	39.2
MM3Z62VCWF	Z≡	58.90	62	65.10	2	215	0.5	423	0.045	43.4
MM3Z68VCWF	Z>	64.60	68	71.40	2	240	0.5	447	0.045	47.6
MM3Z75VCWF	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:

- The Zener Voltage (V_Z) is tested under pulse condition of 10ms.
- The device numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
- For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Liteon Semiconductor Corp. representative.
- 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}.

MM3Z2V4CWF THRU MM3Z75VCWF
Typical Characteristics

Fig.1 Power Derating Curve

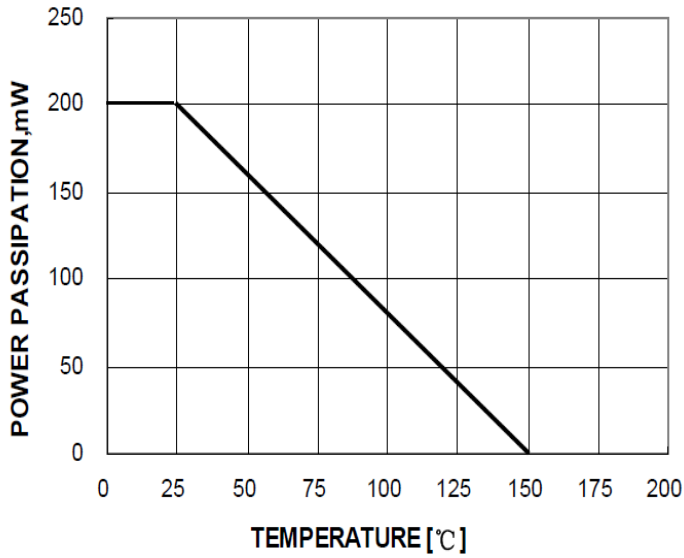


Fig.2 Typical Zener Breakdown Characteristics

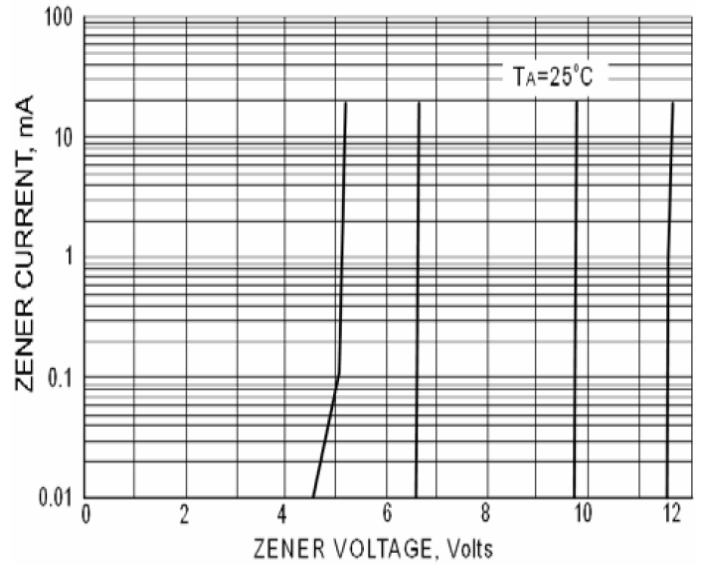


Fig.3 Typical Zener Breakdown Characteristics

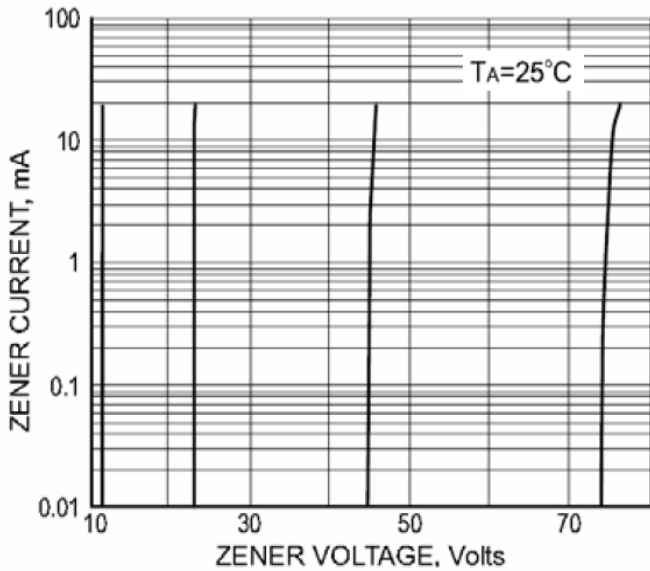


Fig.4 Typical Total Capacitance vs. Nominal Zener Voltage

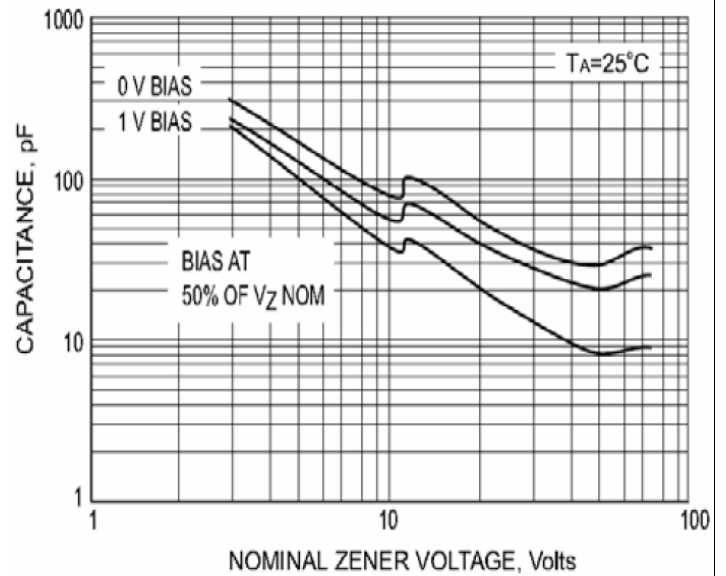


Fig.5 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

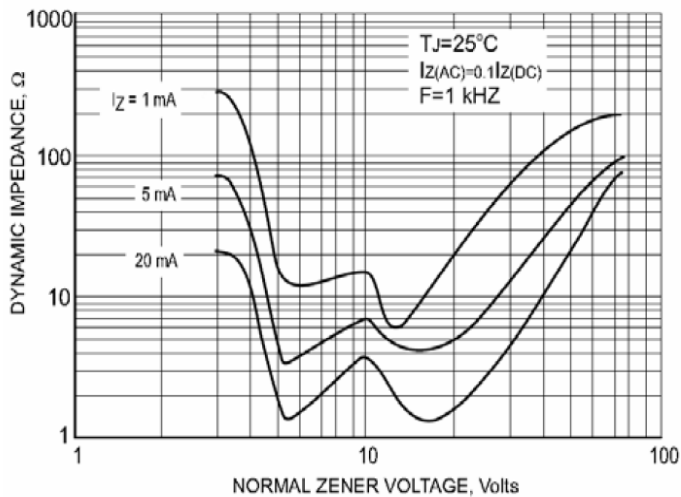
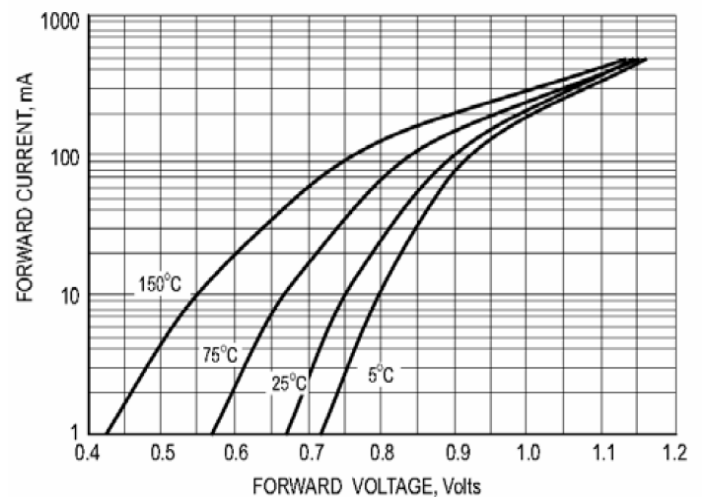
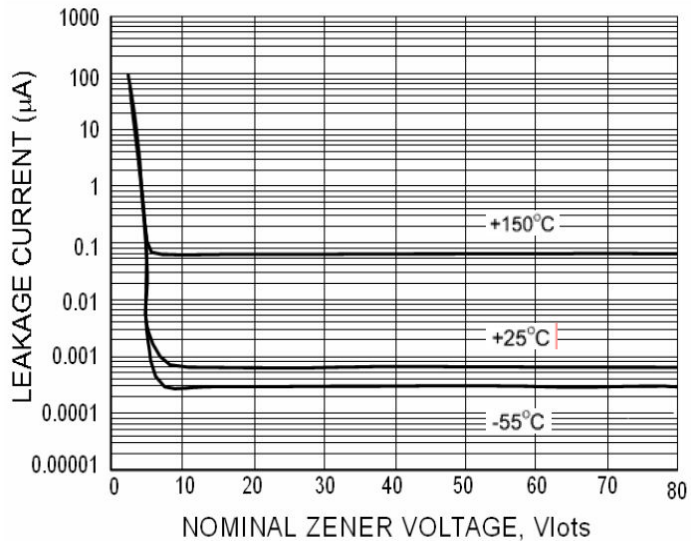


Fig.6 TYPICAL FORWARD VOLTAGE



MM3Z2V4CWF THRU MM3Z75VCWF
Typical Characteristics

Fig.7 TYPICAL LEAKGE CURRENT



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