

**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
- The Vz tolerance is 2%.
- Flat Lead SOD-523F Small Outline Plastic Package
- Extremely Small SOD-523F Package
- Surface Device Type Mounting
- Green EMC
- Matte Tin(Sn) Lead Finish
- RoHS compliant
- Band Indicates Cathode

MECHANICAL DATA

- Case: SOD-523F Plastic

SOD-523F

SOD-523F		
DIM.	MIN.	MAX.
A	1.10	1.30
B	1.50	1.70
C	0.7	0.9
D	0.25	0.35
E	0.50	0.70
F	0.05	0.20

All Dimensions in millimeter

Maximum Ratings & Thermal Characteristics @ T_A = 25°C unless otherwise specified

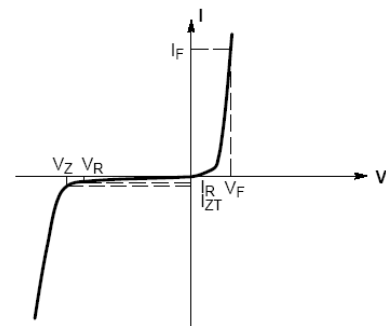
Characteristic	Symbol	Value	Unit
Power Dissipation	P _D	200	mW
Storage Temperature Range	T _{STG}	-55 to +150	°C
Operating Temperature Range	T _{OPR}	-55 to +150	°C

Device Marking :

Device P/N	Marking	Pin Diagram	Equivalent Circuit Diagram
MM5ZxxxCF	See below table		

Electrical Characteristics @ T_A = 25°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



Electrical Characteristics

TA = 25°C unless otherwise noted

Device Type	Device Marking	Vz @ IZT Device (Volts)			IZT (mA)	Zzt @ IZT (Ω) Max	Izk (mA)	Zzk @ Izk (Ω) Max	IR @ VR (μA) Max	VR (Volts)
		Min	Nom	Max						
MM5Z2V4CF	05	2.35	2.4	2.45	5	100	1	564	45	1
MM5Z2V7CF	15	2.65	2.7	2.75	5	100	1	564	18	1
MM5Z3V0CF	25	2.94	3.0	3.06	5	100	1	564	9	1
MM5Z3V3CF	35	3.23	3.3	3.37	5	95	1	564	4.5	1
MM5Z3V6CF	45	3.53	3.6	3.67	5	90	1	564	4.5	1
MM5Z3V9CF	+5	3.82	3.9	3.98	5	90	1	564	2.7	1
MM5Z4V3CF	65	4.21	4.3	4.39	5	90	1	564	2.7	1
MM5Z4V7CF	75	4.61	4.7	4.79	5	80	1	470	2.7	2
MM5Z5V1CF	85	5.00	5.1	5.20	5	60	1	451	1.8	2
MM5Z5V6CF	95	5.49	5.6	5.71	5	40	1	376	0.9	2
MM5Z6V2CF	A5	6.08	6.2	6.32	5	10	1	141	2.7	4
MM5Z6V8CF	B5	6.66	6.8	6.94	5	15	1	75	1.8	4
MM5Z7V5CF	C5	7.35	7.5	7.65	5	15	1	75	0.9	5
MM5Z8V2CF	D5	8.04	8.2	8.36	5	15	1	75	0.63	5
MM5Z9V1CF	E5	8.92	9.1	9.28	5	15	1	94	0.45	6
MM5Z10VCF	F5	9.80	10	10.20	5	20	1	141	0.18	7
MM5Z11VCF	G5	10.78	11	11.22	5	20	1	141	0.09	8
MM5Z12VCF	H5	11.76	12	12.24	5	25	1	141	0.09	8
MM5Z13VCF	J5	12.74	13	13.26	5	30	1	160	0.09	8
MM5Z15VCF	K5	14.70	15	15.30	5	30	1	188	0.045	10.5
MM5Z16VCF	L5	15.68	16	16.32	5	40	1	188	0.045	11.2
MM5Z18VCF	M5	17.64	18	18.36	5	45	1	212	0.045	12.6
MM5Z20VCF	N5	19.60	20	20.40	5	55	1	212	0.045	14.0
MM5Z22VCF	P5	21.56	22	22.44	5	55	1	235	0.045	15.4
MM5Z24VCF	R5	23.52	24	24.48	5	70	1	235	0.045	16.8
MM5Z27VCF	S5	26.46	27	27.54	2	80	0.5	282	0.045	18.9
MM5Z30VCF	T5	29.40	30	30.60	2	80	0.5	282	0.045	21.0
MM5Z33VCF	U5	32.34	33	33.66	2	80	0.5	306	0.045	23.0
MM5Z36VCF	V5	35.28	36	36.72	2	90	0.5	329	0.045	25.2
MM5Z39VCF	X5	38.22	39	39.78	2	130	0.5	329	0.045	27.3
MM5Z43VCF	Y5	42.14	43	43.86	2	150	0.5	353	0.045	30.1
MM5Z47VCF	Z5	46.06	47	47.94	2	170	0.5	353	0.045	33.0
MM5Z51VCF	-5	49.98	51	52.02	2	180	0.5	376	0.045	35.7
MM5Z56VCF	=5	54.88	56	57.12	2	200	0.5	400	0.045	39.2
MM5Z62VCF	≅5	60.76	62	63.24	2	215	0.5	423	0.045	43.4
MM5Z68VCF	>5	66.64	68	69.36	2	240	0.5	447	0.045	47.6
MM5Z75VCF	<5	73.50	75	76.50	2	255	0.5	470	0.045	52.5

VF Forward Voltage=1.0V Maximum@IF=10mA for all types

Notes:

1. The Zener Voltage (Vz) is tested under pulse condition of 10mS.
2. 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.
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 (Izt or Izk) is superimposed to Izt or Izk.

MM5Z2V4CF THRU MM5Z75VCF
Typical Characteristics

Fig.1 Power Derating Curve

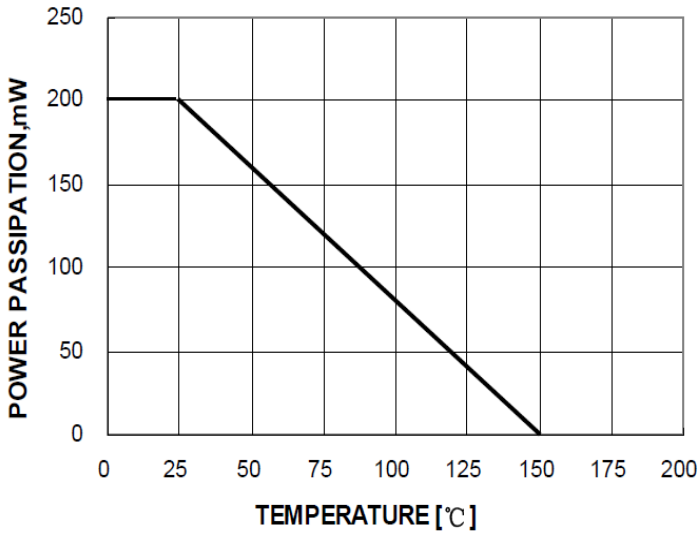


Fig.2 Typical Zener Breakdown Characteristics

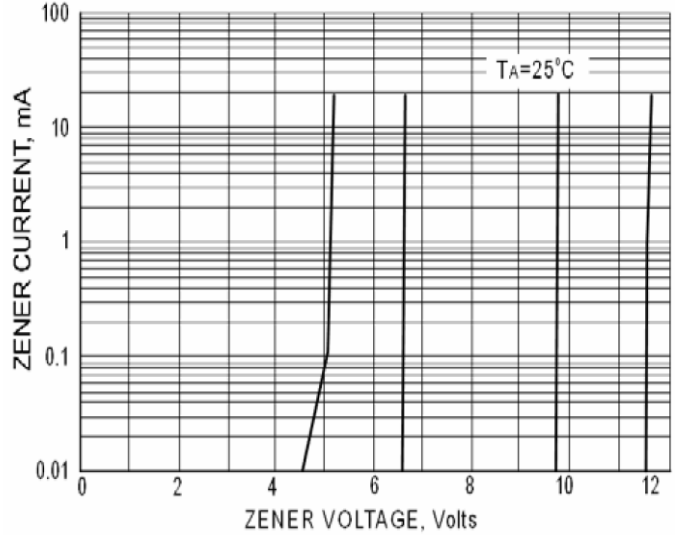


Fig.3 Typical Zener Breakdown Characteristics

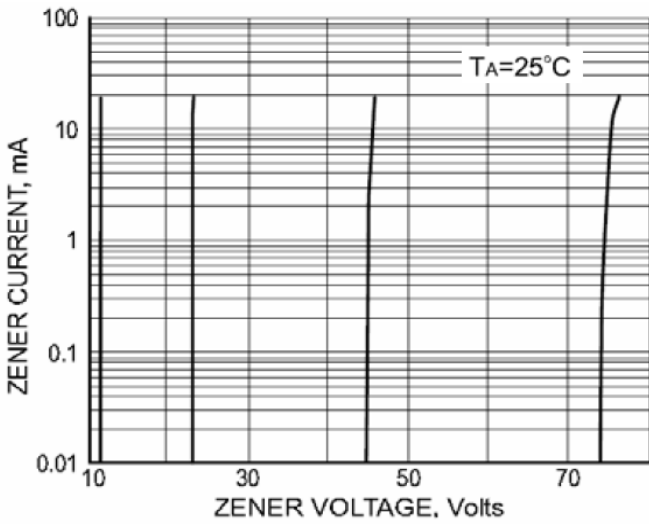


Fig.4 Typical Total Capacitance vs. Nominal Zener Voltage

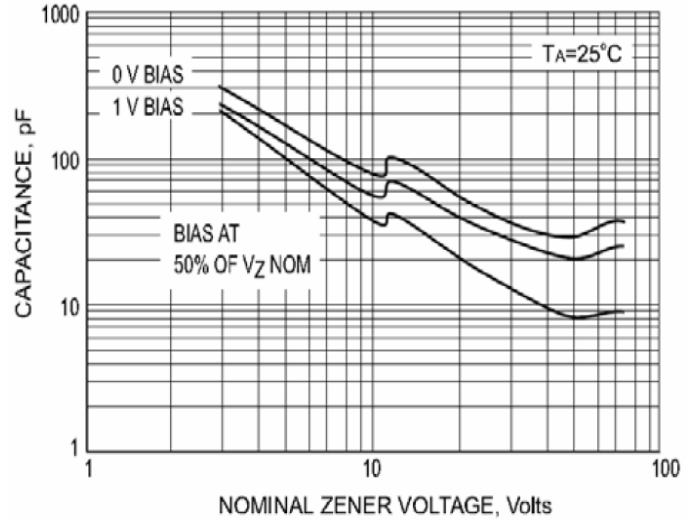


Fig.5 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

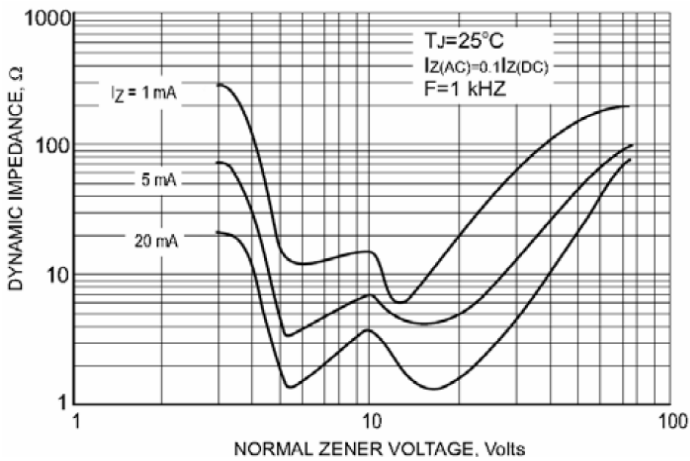
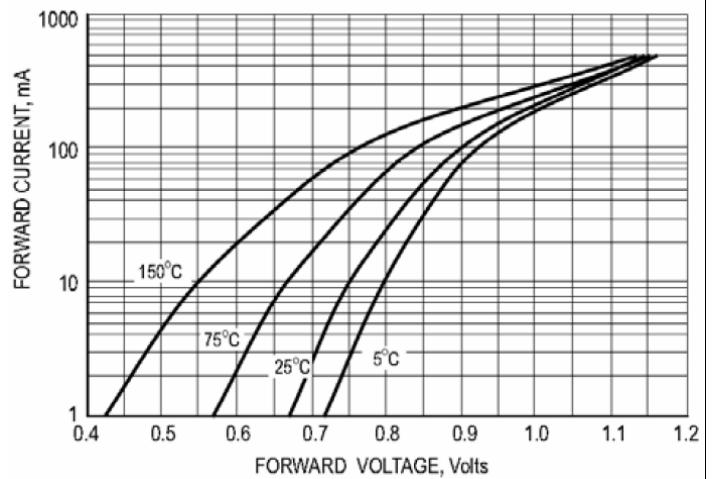
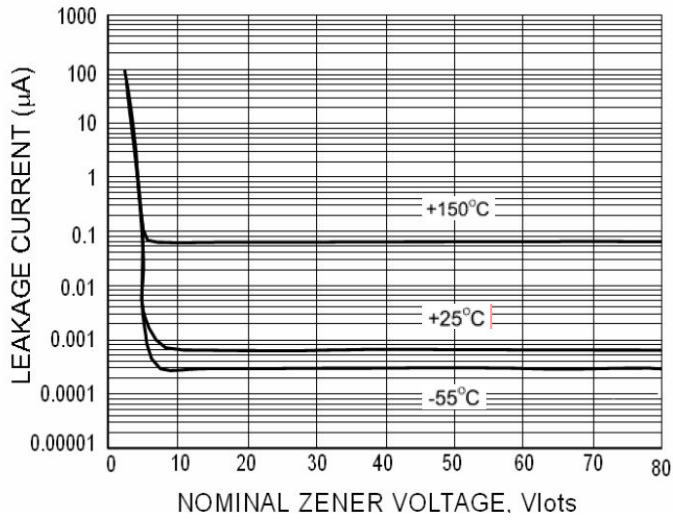


Fig.6 TYPICAL FORWARD VOLTAGE



MM5Z2V4CF THRU MM5Z75VCF
Typical Characteristics

Fig.7 TYPICAL LEAKGE CURRENT



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