

MM5Z2V4CF - MM5Z75VCF(LS)

SURFACE MOUNT ZENER DIODE

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

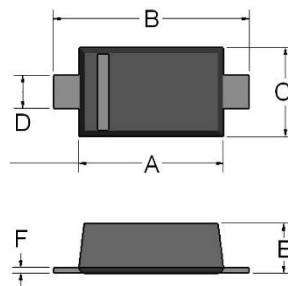
FEATURES

- 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 Epoxy Molding Compound
- Band Indicates Cathode
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package: 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}	-65 to +150	°C
Operating Temperature Range	T _J	-65 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

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

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

Device Type	Device Marking	V _Z @ I _{ZT} Device (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						
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

V_F Forward Voltage=1.0V Maximum @I_F=10mA for all types

Notes:

- The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
- 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 Characteristics
MM5Z2V4CF - MM5Z75VCF

Fig.1 Power Derating Curve

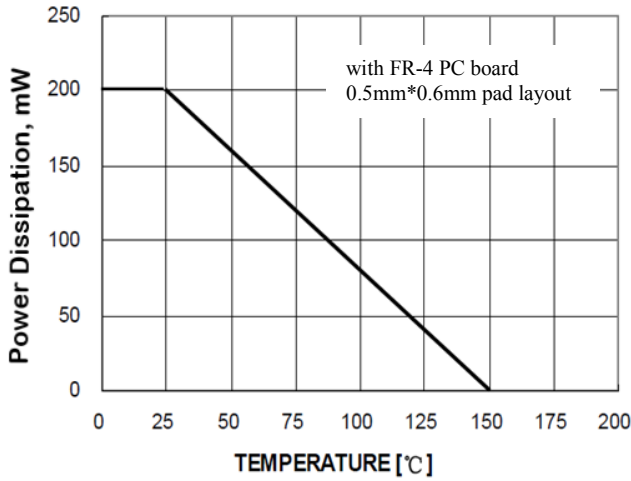


Fig.2 Typical Zener Breakdown Characteristics

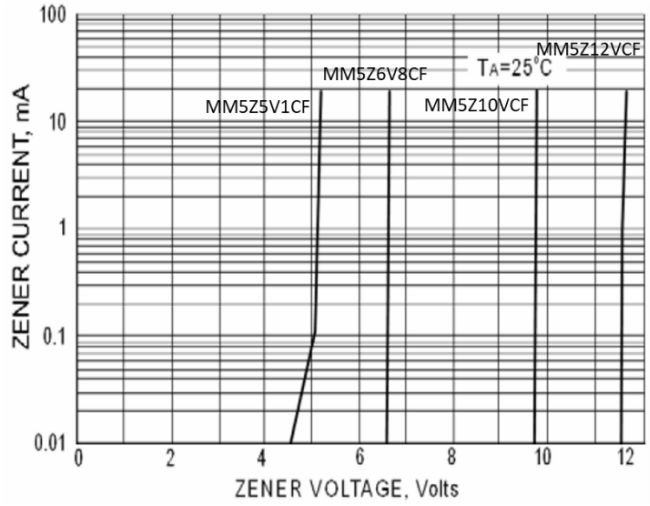


Fig.3 Typical Zener Breakdown Characteristics

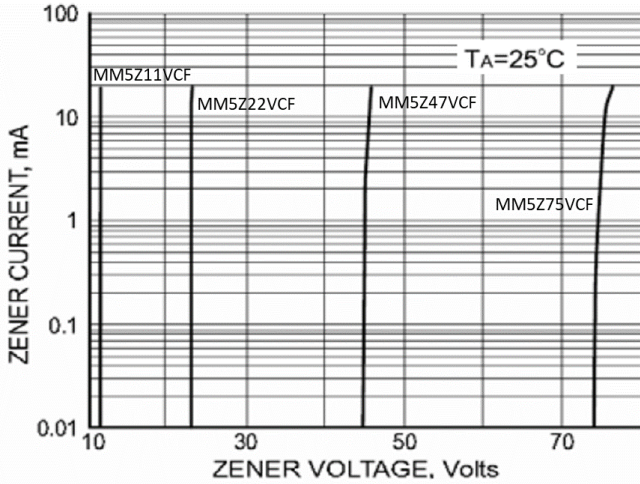


Fig.4 Typical Total Capacitance vs. Nominal Zener Voltage

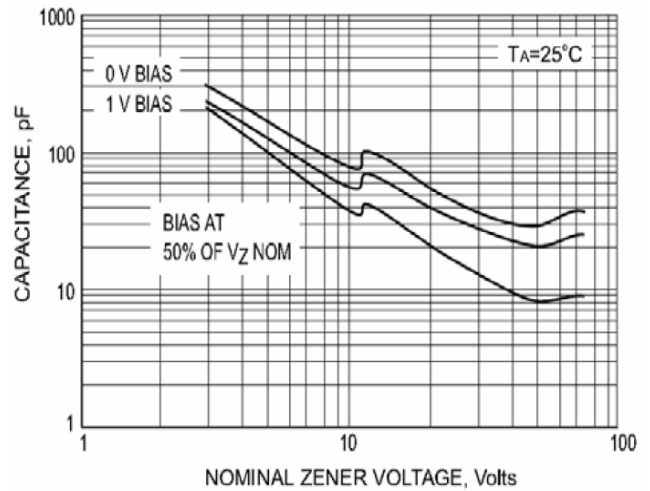


Fig.5 Effect Of Zener Voltage On Zener Impedance

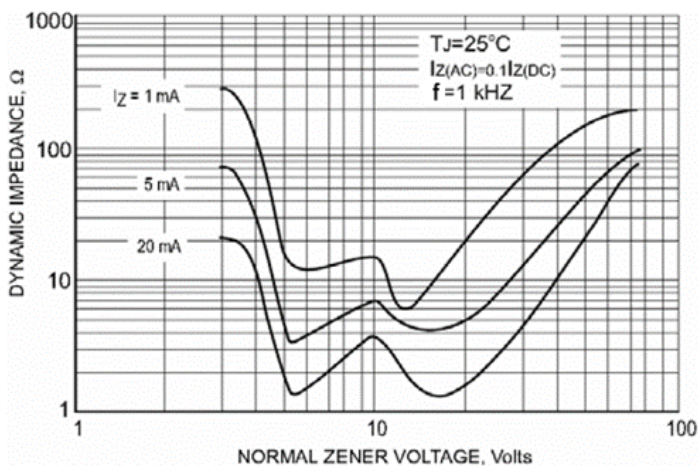
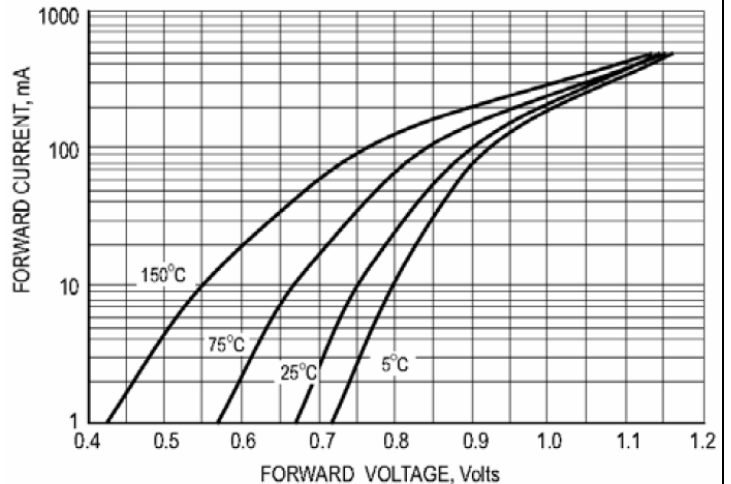
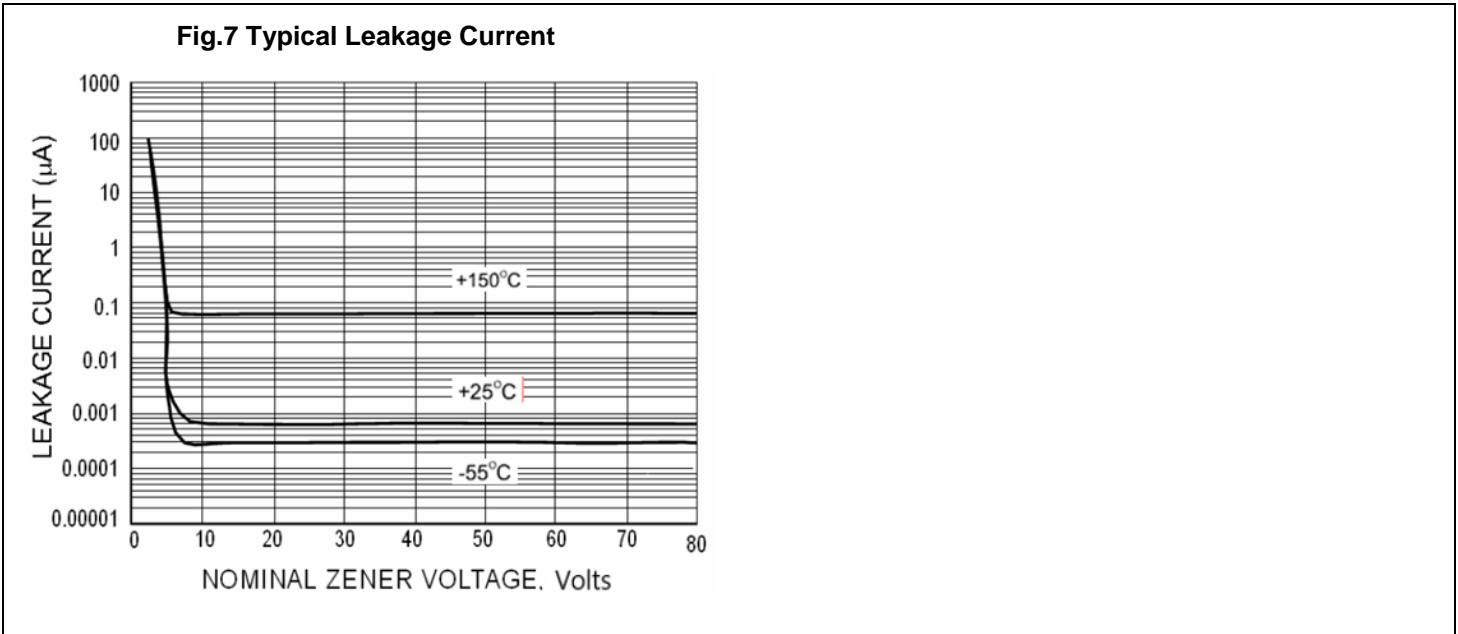


Fig.6 Typical Forward Voltage



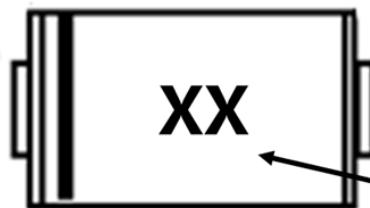
Typical Characteristics (continued)
MM5Z2V4CF - MM5Z75VCF



Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
MM5Z2V4CF	SOD-523F	3000pcs	Tape & Reel
MM5Z2V7CF	SOD-523F	3000pcs	Tape & Reel
MM5Z3V0CF	SOD-523F	3000pcs	Tape & Reel
MM5Z3V3CF	SOD-523F	3000pcs	Tape & Reel
MM5Z3V6CF	SOD-523F	3000pcs	Tape & Reel
MM5Z3V9CF	SOD-523F	3000pcs	Tape & Reel
MM5Z4V3CF	SOD-523F	3000pcs	Tape & Reel
MM5Z4V7CF	SOD-523F	3000pcs	Tape & Reel
MM5Z5V1CF	SOD-523F	3000pcs	Tape & Reel
MM5Z5V6CF	SOD-523F	3000pcs	Tape & Reel
MM5Z6V2CF	SOD-523F	3000pcs	Tape & Reel
MM5Z6V8CF	SOD-523F	3000pcs	Tape & Reel
MM5Z7V5CF	SOD-523F	3000pcs	Tape & Reel
MM5Z8V2CF	SOD-523F	3000pcs	Tape & Reel
MM5Z9V1CF	SOD-523F	3000pcs	Tape & Reel
MM5Z10VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z11VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z12VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z13VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z15VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z16VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z18VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z20VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z22VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z24VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z27VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z30VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z33VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z36VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z39VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z43VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z47VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z51VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z56VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z62VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z68VCF	SOD-523F	3000pcs	Tape & Reel
MM5Z75VCF	SOD-523F	3000pcs	Tape & Reel

Marking Information:



Product Type Marking Code, ex: 05

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