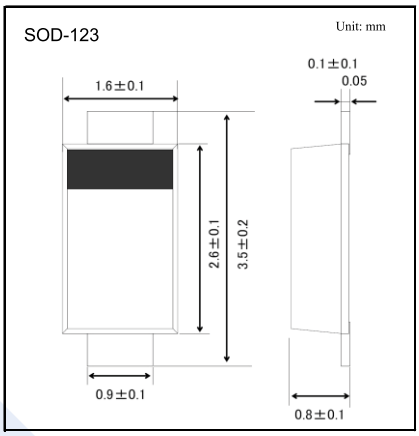
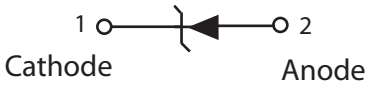
Zener Diodes

MMSZ Series (KMSZ Series)



■ Features

- Wide Zener Voltage Range Selection, 2.0V to 75V
- VZ Tolerance Selection of ±2% (B Series)
- Flat Lead SOD-123 Plastic Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	500	mW
Junction Temperature	T_J	150	℃
Operating Temperature Range	T_{OPR}	-65 to 150	
Storage Temperature range	T_{stg}	-65 to 150	

■ Electrical Characteristics Ta = 25℃

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						
MMSZ2V0BW	2V0B	1.95	2.0	2.05	5	100	1	564	120	0.5
MMSZ2V2BW	2V2B	2.14	2.2	2.26	5	100	1	564	120	0.7
MMSZ2V4BW	2V4B	2.35	2.4	2.45	5	100	1	564	45	1
MMSZ2V7BW	2V7B	2.65	2.7	2.75	5	100	1	564	18	1
MMSZ3V0BW	3V0B	2.94	3.0	3.06	5	100	1	564	9	1
MMSZ3V3BW	3V3B	3.23	3.3	3.37	5	95	1	564	4.5	1
MMSZ3V6BW	3V6B	3.53	3.6	3.67	5	90	1	564	4.5	1
MMSZ3V9BW	3V9B	3.82	3.9	3.98	5	90	1	564	2.7	1
MMSZ4V3BW	4V3B	4.21	4.3	4.39	5	90	1	564	2.7	1
MMSZ4V7BW	4V7B	4.61	4.7	4.79	5	80	1	470	2.7	2
MMSZ5V1BW	5V1B	5.00	5.1	5.20	5	60	1	451	1.8	2
MMSZ5V6BW	5V6B	5.49	5.6	5.71	5	40	1	376	0.9	2
MMSZ6V2BW	6V2B	6.08	6.2	6.32	5	10	1	141	2.7	4
MMSZ6V8BW	6V8B	6.66	6.8	6.94	5	15	1	75	1.8	4
MMSZ7V5BW	7V5B	7.35	7.5	7.65	5	15	1	75	0.9	5
MMSZ8V2BW	8V2B	8.04	8.2	8.36	5	15	1	75	0.63	5
MMSZ9V1BW	9V1B	8.92	9.1	9.28	5	15	1	94	0.45	6
MMSZ10VBW	10VB	9.80	10	10.20	5	20	1	141	0.18	7
MMSZ11VBW	11VB	10.78	11	11.22	5	20	1	141	0.09	8
MMSZ12VBW	12VB	11.76	12	12.24	5	25	1	141	0.09	8
MMSZ13VBW	13VB	12.74	13	13.26	5	30	1	160	0.09	8
MMSZ15VBW	15VB	14.70	15	15.30	5	30	1	188	0.045	10.5

Zener Diodes

MMSZ Series (KMSZ Series)

■ Electrical Characteristics Ta = 25℃

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						
MMSZ16VBW	16VB	15.68	16	16.32	5	40	1	188	0.045	11.2
MMSZ18VBW	18VB	17.64	18	18.36	5	45	1	212	0.045	12.6
MMSZ20VBW	20VB	19.60	20	20.40	5	55	1	212	0.045	14.0
MMSZ22VBW	22VB	21.56	22	22.44	5	55	1	235	0.045	15.4
MMSZ24VBW	24VB	23.52	24	24.48	5	70	1	235	0.045	16.8
MMSZ27VBW	27VB	26.46	27	27.54	2	80	0.5	282	0.045	18.9
MMSZ30VBW	30VB	29.40	30	30.60	2	80	0.5	282	0.045	21.0
MMSZ33VBW	33VB	32.34	33	33.66	2	80	0.5	306	0.045	23.0
MMSZ36VBW	36VB	35.28	36	36.72	2	90	0.5	329	0.045	25.2
MMSZ39VBW	39VB	38.22	39	39.78	2	130	0.5	329	0.045	27.3
MMSZ43VBW	43VB	42.14	43	43.86	2	150	0.5	353	0.045	30.1
MMSZ47VBW	47VB	46.06	47	47.94	2	170	0.5	353	0.045	33.0
MMSZ51VBW	51VB	49.98	51	52.02	2	180	0.5	376	0.045	35.7
MMSZ56VBW	56VB	54.88	56	57.12	2	200	0.5	400	0.045	39.2
MMSZ62VBW	62VB	60.76	62	63.24	2	215	0.5	423	0.045	43.4
MMSZ68VBW	68VB	66.64	68	69.36	2	240	0.5	447	0.045	47.6
MMSZ75VBW	75VB	73.50	75	76.50	2	255	0.5	470	0.045	52.5
V_F Forward Voltage = 900mV 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 ±2%.
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}.

■ Typical Characterisitics

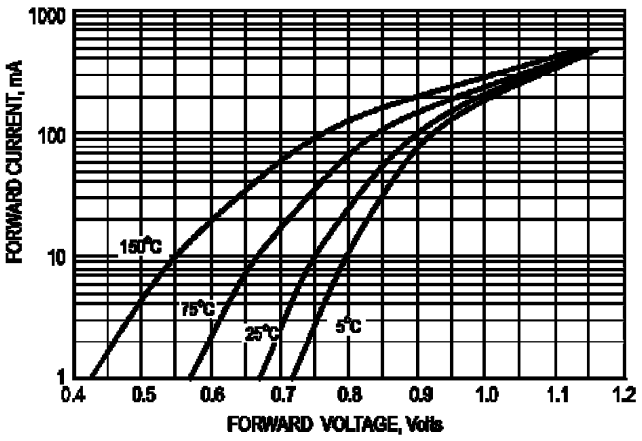


Fig.1 TYPICAL FORWARD VOLTAGE

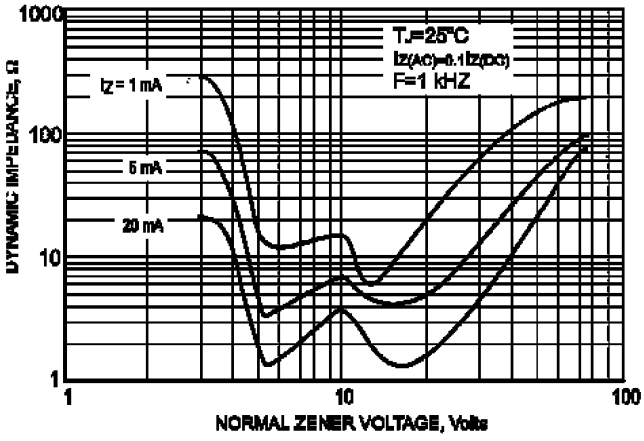


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

Zener Diodes

MMSZ Series (KMSZ Series)

■ Typical Characterisitics

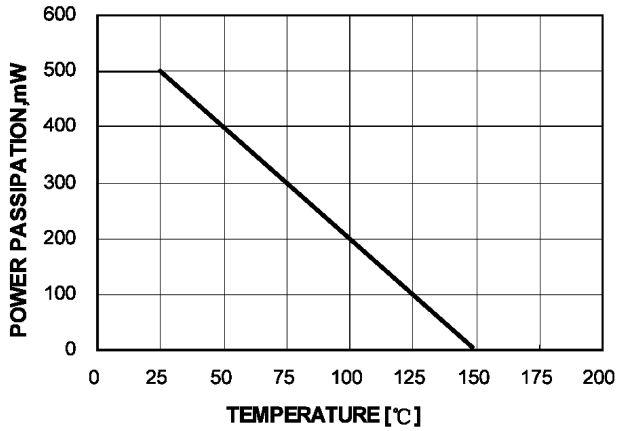


Fig.3 POWER DISSIPATION VS. AMBIENT TEMP.

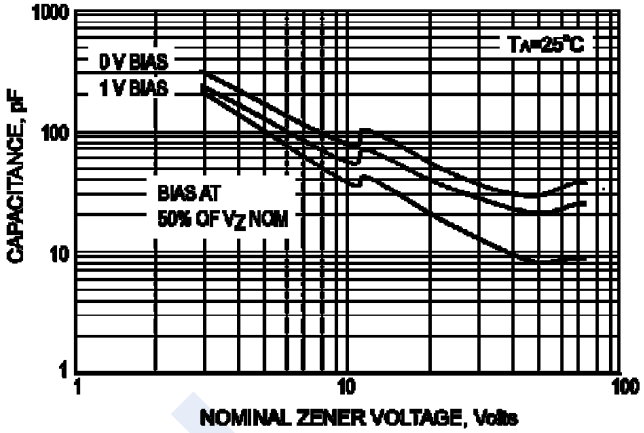


Fig.4 TYPICAL CAPACITANCE

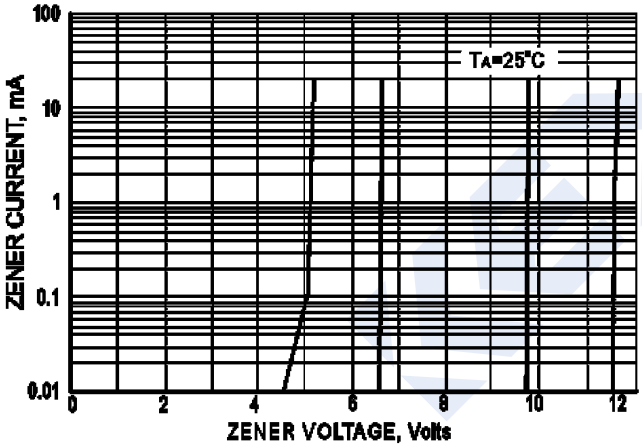


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

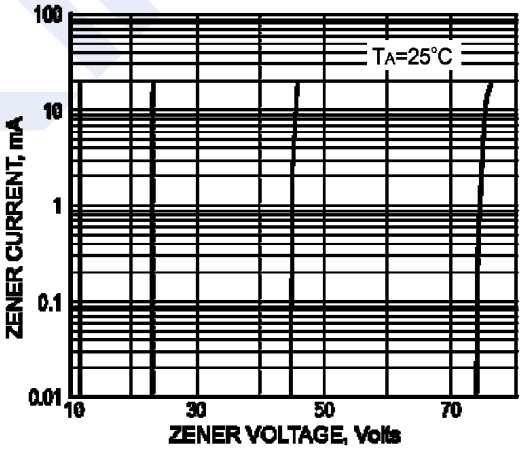


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

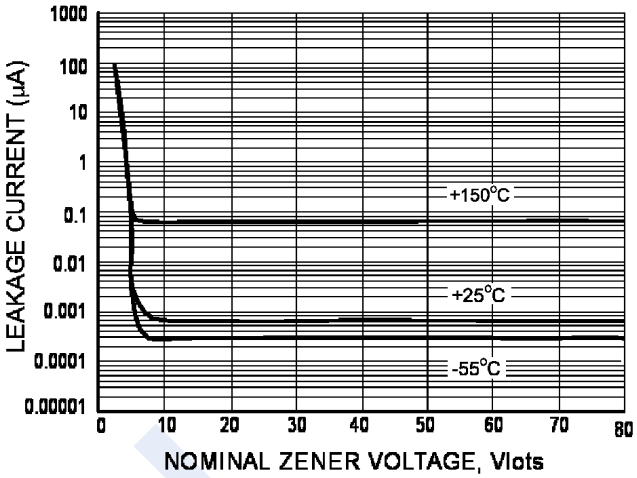


Fig.7 TYPICAL LEAKGE CURRENT