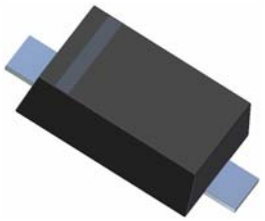
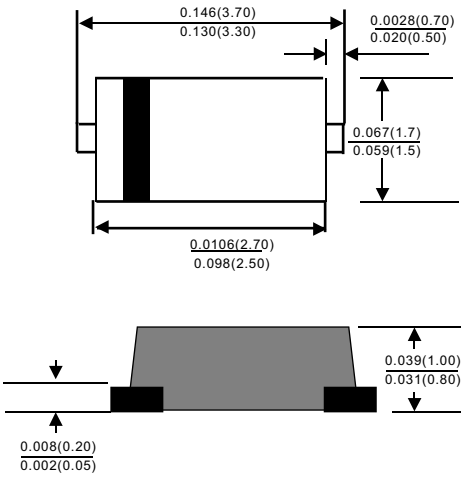
MMSZ2V4 thru MMSZ75V

SURFACE MOUNT ZENER TYPE



SOD-123



Dimensions in inches and (millimeters)

FEATURES

- Wide Zener Voltage Range Selection, 2.4V to 75V
- VZ Tolerance Selection of ±5% (C Series)
- Flat Lead SOD-123 Plastic Package
- Surface Device Type Mounting
- Moisture Sensitivity Level 1
- Clip Bonding Construction, Good Thermal Capability
- Pb Free Version and RoHS Compliant
- Matte Tin(Sn) Lead Finish with Nickel(Ni) Underplate
- Band Indicates Cathode

MECHANICAL DATA

Case：Molded plastic, JEDEC SOD-123
Terminals：Solder Plated, solderable per MIL-STD-750, Method 2026
Polarity：Indicated by cathode band
Mounting Position：Any

MAXIMUM RATINGS (at T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
P_D	Power Dissipation	500	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.

SURFACE MOUNT ZENER TYPE

ELECTRICAL CHARACTERISTICS (at 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						
MMSZ2V4	2V4Z	2.28	2.4	2.52	5	94	1	564	45	1
MMSZ2V7	2V7Z	2.57	2.7	2.84	5	94	1	564	18	1
MMSZ3V0	3V0Z	2.85	3.0	3.15	5	89	1	564	9	1
MMSZ3V3	3V3Z	3.14	3.3	3.47	5	89	1	564	4.5	1
MMSZ3V6	3V6Z	3.42	3.6	3.78	5	84	1	564	4.5	1
MMSZ3V9	3V9Z	3.71	3.9	4.10	5	84	1	564	2.7	1
MMSZ4V3	4V3Z	4.09	4.3	4.52	5	84	1	564	2.7	1
MMSZ4V7	4V7Z	4.47	4.7	4.94	5	75	1	470	2.7	2
MMSZ5V1	5V1Z	4.85	5.1	5.36	5	56	1	451	1.8	2
MMSZ5V6	5V6Z	5.32	5.6	5.88	5	37	1	376	0.9	2
MMSZ6V2	6V2Z	5.89	6.2	6.51	5	9	1	141	2.7	4
MMSZ6V8	6V8Z	6.46	6.8	7.14	5	14	1	75	1.8	4
MMSZ7V5	7V5Z	7.11	7.5	7.86	5	14	1	75	0.9	5
MMSZ8V2	8V2Z	7.79	8.2	8.61	5	14	1	75	0.63	5
MMSZ9V1	9V1Z	8.65	9.1	9.56	5	14	1	94	0.45	6
MMSZ10V	10VZ	9.50	10	10.50	5	18	1	141	0.18	7
MMSZ11V	11VZ	10.45	11	11.55	5	18	1	141	0.09	8
MMSZ12V	12VZ	11.40	12	12.60	5	23	1	141	0.09	8
MMSZ13V	13VZ	12.35	13	13.65	5	28	1	160	0.09	8
MMSZ15V	15VZ	14.25	15	15.75	5	28	1	188	0.045	10.5
MMSZ16V	16VZ	15.20	16	16.80	5	37	1	188	0.045	11.2
MMSZ18V	18VZ	17.10	18	18.90	5	42	1	212	0.045	12.6
MMSZ20V	20VZ	19.00	20	21.00	5	51	1	212	0.045	14.0
MMSZ24V	24VZ	22.80	24	25.20	5	65	1	235	0.045	16.8
MMSZ27V	27VZ	25.65	27	28.35	5	75	0.5	282	0.045	18.9
MMSZ30V	30VZ	28.50	30	31.50	5	75	0.5	282	0.045	21.0
MMSZ33V	33VZ	31.35	33	34.65	5	75	0.5	306	0.045	23.0
MMSZ36V	36VZ	34.20	36	37.80	5	84	0.5	329	0.045	25.2
MMSZ39V	39VZ	37.05	39	40.95	5	122	0.5	329	0.045	27.3
MMSZ43V	43VZ	40.85	43	45.15	5	141	0.5	353	0.045	30.1
MMSZ47V	47VZ	44.65	47	49.35	5	160	0.5	353	0.045	33.0
MMSZ51V	51VZ	48.45	51	53.55	5	169	0.5	376	0.045	35.7
MMSZ56V	56VZ	53.20	56	58.80	5	188	0.5	400	0.045	39.2
MMSZ62V	62VZ	58.90	62	65.10	5	202	0.5	423	0.045	43.4
MMSZ68V	68VZ	64.60	68	71.40	5	226	0.5	447	0.045	47.6
MMSZ75V	75VZ	71.25	75	78.75	5	240	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 ±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 YEASHIN 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}.

FIG.1-TOTAL POWER DISSIPATION VS. AMBIENT TEMPERATURE

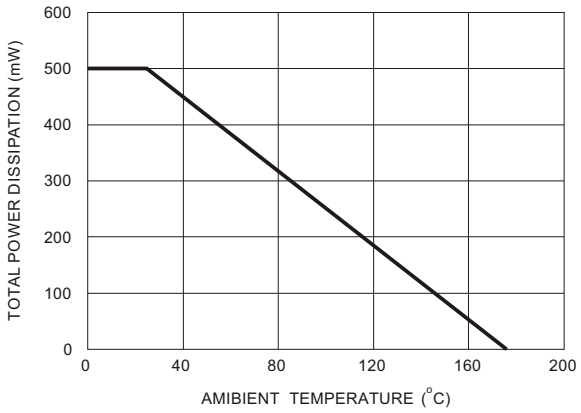


FIG. 2-TYPICAL CHANGE OF WORKING VOLTAGE UNDER OPERATING CONDITIONS AT T_A =25°C

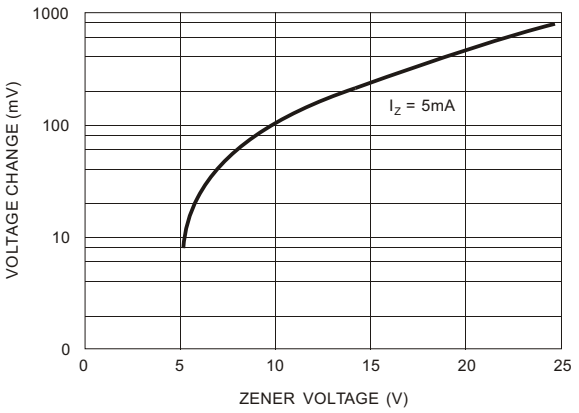


FIG. 3-TYPICAL CHANGE OF WORKING VOLTAGE VS. JUNCTION TEMPERATURE

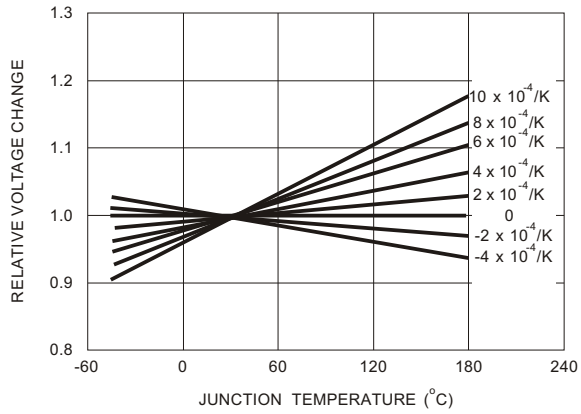


FIG. 4-TEMPERATURE COEFFICIENT OF VZ VS. Z-VOLTAGE

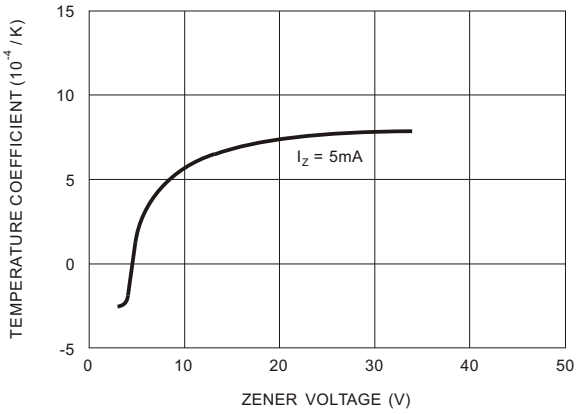


FIG. 5-DIODE CAPACITANCE VS. Z-VOLTAGE

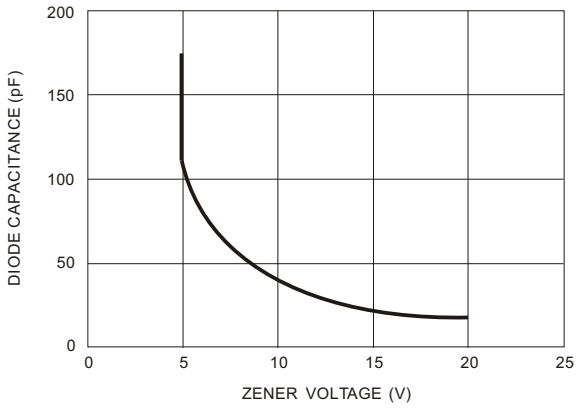


FIG. 6-FORWARD CURRENT VS. FORWARD VOLTAGE

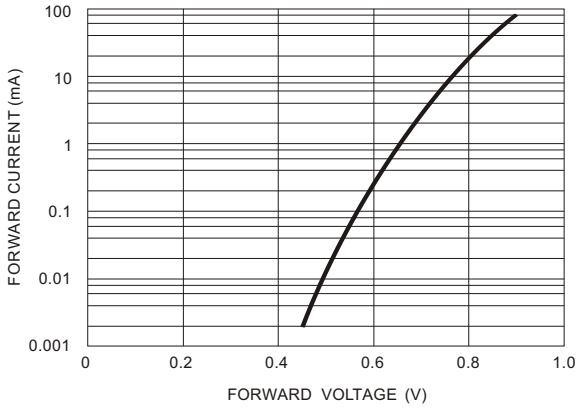


FIG. 7-Z-CURRENT VS. Z-VOLTAGE

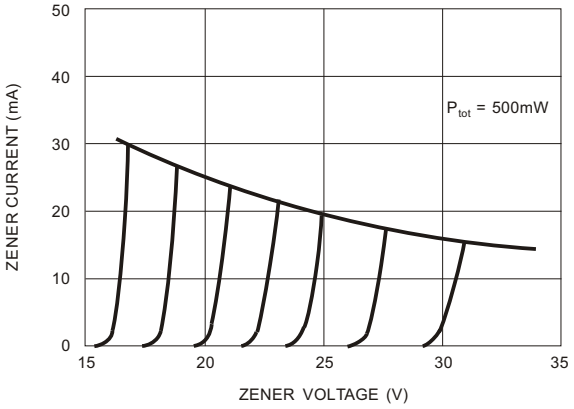


FIG. 8-Z-CURRENT VS. Z-VOLTAGE

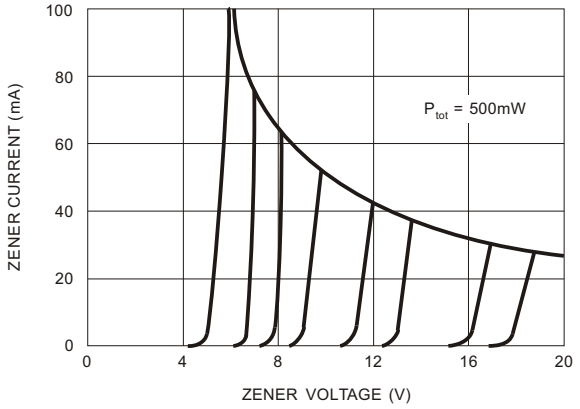


FIG. 9-DIFFERENTIAL Z-RESISTANCE VS. Z-VOLTAGE

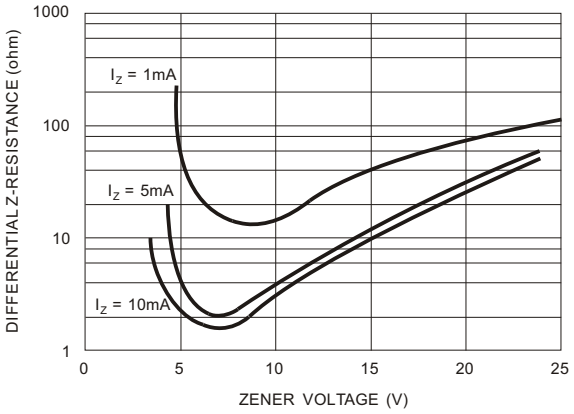


FIG. 10-THERMAL RESPONSE