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SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MMSZ46XX-MS

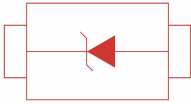
Product specification

MMSZ4678-MMSZ4717 ZENER DIODE

Features

- Pb-Free Packages are Available
- Wide Zener Reverse Voltage Range
- Small Package Size for High Density Applications
- ESD Rating of Class 3 (>16 kV) per Human Body Model

Reference News

PACKAGE OUTLINE	PIN Configuration
 SOD-123	

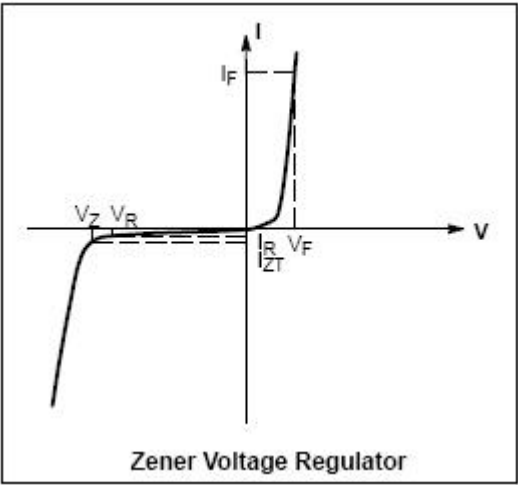
Maximum Ratings (Ta =25℃ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Forward voltage @If =10mA	V_F	0.9	V
Power Dissipation	P_D	350	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ +150	℃

Notes: Device mounted on ceramic PCB;5.0mm×7.0mm with pad areas 35 mm2

ELECTRICAL CHARACTERISTICS (Ta=25℃unless otherwise noted)

symbol	Parameter
V_Z	Reverse zener voltage @ I_{ZT}
I_{ZT}	Reverse current
I_R	Reverse leakage current@ V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward @ I_F

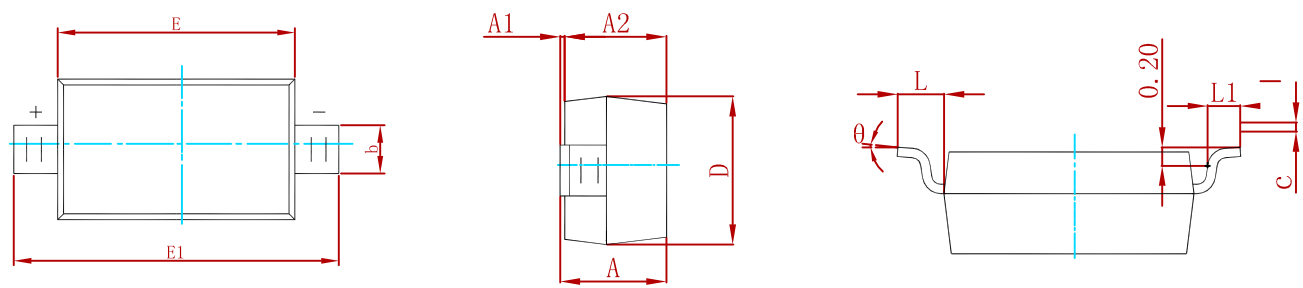


Ta=25°C unless otherwise specified

Device	Device Marking	Zener Voltage (Notes 1)				Leakage Current	
		V _Z (Volts)			@ I _{ZT}	I _R @ V _R	
		Min	Nom	Max	μA	μA	Volts
MMSZ4678-MS	CC	1.71	1.8	1.89	50	7.5	1
MMSZ4679-MS	CD	1.90	2.0	2.10	50	5	1
MMSZ4680-MS	CE	2.09	2.2	2.31	50	4	1
MMSZ4681-MS	CF	2.28	2.4	2.52	50	2	1
MMSZ4682-MS	CH	2.565	2.7	2.835	50	1	1
MMSZ4683-MS	CJ	2.85	3.0	3.15	50	0.8	1
MMSZ4684-MS	CK	3.13	3.3	3.47	50	7.5	1.5
MMSZ4685-MS	CM	3.42	3.6	3.78	50	7.5	2
MMSZ4686-MS	CN	3.70	3.9	4.10	50	5	2
MMSZ4687-MS	CP	4.09	4.3	4.52	50	4	2
MMSZ4688-MS	CT	4.47	4.7	4.94	50	10	3
MMSZ4689-MS	CU	4.85	5.1	5.36	50	10	3
MMSZ4690-MS	CV	5.32	5.6	5.88	50	10	4
MMSZ4691-MS	CA	5.89	6.2	6.51	50	10	5
MMSZ4692-MS	CX	6.46	6.8	7.14	50	10	5.1
MMSZ4693-MS	CY	7.13	7.5	7.88	50	10	5.7
MMSZ4694-MS	CZ	7.79	8.2	8.61	50	1	6.2
MMSZ4695-MS	DC	8.27	8.7	9.14	50	1	6.6
MMSZ4696-MS	DD	8.65	9.1	9.56	50	1	6.9
MMSZ4697-MS	DE	9.50	10	10.50	50	1	7.6
MMSZ4698-MS	DF	10.45	11	11.55	50	0.05	8.4
MMSZ4699-MS	DH	11.40	12	12.60	50	0.05	9.1
MMSZ4700-MS	DJ	12.35	13	13.65	50	0.05	9.8
MMSZ4701-MS	DK	13.30	14	14.70	50	0.05	10.6
MMSZ4702-MS	DM	14.25	15	15.75	50	0.05	11.4
MMSZ4703-MS*	DN	15.20	16	16.80	50	0.05	12.1
MMSZ4704-MS	DP	16.15	17	17.85	50	0.05	12.9
MMSZ4705-MS	DT	17.10	18	18.90	50	0.05	13.6
MMSZ4706-MS	DU	18.05	19	19.95	50	0.05	14.4
MMSZ4707-MS	DV	19.00	20	21.00	50	0.01	15.2
MMSZ4708-MS	DA	20.90	22	23.10	50	0.01	16.7
MMSZ4709-MS	DX	22.80	24	25.20	50	0.01	18.2
MMSZ4710-MS	DY	23.75	25	26.25	50	0.01	19.0
MMSZ4711-MS*	EA	25.65	27	28.35	50	0.01	20.4
MMSZ4712-MS	EC	26.60	28	29.40	50	0.01	21.2
MMSZ4713-MS	ED	28.50	30	31.50	50	0.01	22.8
MMSZ4714-MS	EE	31.35	33	34.65	50	0.01	25.0
MMSZ4715-MS	EF	34.20	36	37.80	50	0.01	27.3
MMSZ4716-MS	EH	37.05	39	40.95	50	0.01	29.6
MMSZ4717-MS	EJ	40.85	43	45.15	50	0.01	32.6

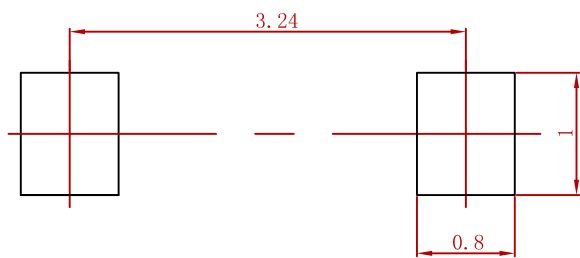
1. Nominal Zener voltage is measured with the device junction in thermal equilibrium at T_L=30°C±1°C

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

REELSPECIFICATION

P/N	PKG	QTY
MMSZ46XX-MS	SOD-123	3000

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