Innovative Service Around the Globe YAGEO

DATA SHEET

ZENER DIODES
GENERAL VOLTAGE REGULATION

MM9Z SERIES

RoHS compliant & Halogen free

Product specification– November 24, 2023 V.0



制修订履历表

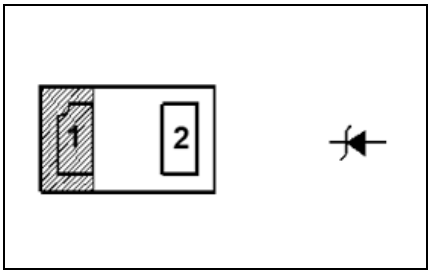
版本	页码	日期	制修订内容	核准	审核	制修订人
V0	1-6	2022-11-02	新制订	吴其杰	林永大	史园园

类别	签收日期	执行日期	主管签名确认
外发回签栏			

Zener Diodes

Features

- Total power dissipation: max. 250mW
- Small plastic package suitable for surface mounted design
- High reliability
- Halogen and Antimony Free(HAF), RoHS compliant



Pin Configuration

Absolute Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Value	Unit
Total Device Dissipation	P_{tot}	250	mW
Junction and Storage Temperature Range	T_j , T_{stg}	- 65 to + 150	℃

Electrical Characteristics at T_a = 25℃ （V_F = 0.9V Max. at I_F = 10mA）

Type	Marking Code	Zener Voltage 1)			Zener Impedance				Leakage Current	
		V_{ZT} at I_{ZT}		I_{ZT}	Z_{ZT} at I_{ZT}	I_{ZT}	Z_{ZK} at I_{Zk}	I_{ZK}	I_R at V_R	V_R
		Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
MM9Z2V0	9H	1.8	2.15	5	100	5	-	-	120	0.5
MM9Z2V2	9J	2.08	2.33	5	100	5	-	-	120	0.7
MM9Z2V4	9K	2.2	2.6	5	100	5	1000	1	120	1
MM9Z2V7	9L	2.5	2.9	5	100	5	1000	1	120	1
MM9Z3V0	9M	2.8	3.2	5	100	5	1000	1	50	1
MM9Z3V3	9N	3.1	3.5	5	95	5	1000	1	20	1
MM9Z3V6	9P	3.4	3.8	5	90	5	1000	1	10	1
MM9Z3V9	9Q	3.7	4.1	5	90	5	1000	1	5	1
MM9Z4V3	9R	4	4.6	5	90	5	1000	1	5	1
MM9Z4V7	9S	4.4	5	5	80	5	800	1	2	1
MM9Z5V1	9T	4.8	5.4	5	60	5	500	1	2	1.5
MM9Z5V6	9U	5.2	6	5	40	5	200	1	1	2.5
MM9Z6V2	9V	5.8	6.6	5	10	5	100	1	1	3
MM9Z6V8	9W	6.4	7.2	5	15	5	160	1	0.5	3.5
MM9Z7V5	9X	7	7.9	5	15	5	160	1	0.5	4
MM9Z8V2	9Y	7.7	8.7	5	15	5	160	1	0.5	5
MM9Z9V1	9Z	8.5	9.6	5	15	5	160	1	0.5	6
MM9Z10	0A	9.4	10.6	5	20	5	160	1	0.1	7
MM9Z11	0B	10.4	11.6	5	20	5	160	1	0.1	8
MM9Z12	0C	11.4	12.7	5	25	5	80	1	0.1	9
MM9Z13	0D	12.4	14.1	5	30	5	80	1	0.1	10
MM9Z15	0E	13.8	15.6	5	30	5	80	1	0.1	11
MM9Z16	0F	15.3	17.1	2	40	2	80	1	0.1	12
MM9Z18	0G	16.8	19.1	2	45	2	80	1	0.1	13
MM9Z20	0H	18.8	21.2	2	55	2	100	1	0.1	15
MM9Z22	0J	20.8	23.3	2	55	2	100	1	0.1	17
MM9Z24	0K	22.8	25.6	2	70	2	120	1	0.1	19
MM9Z27	0L	25.1	28.9	2	80	2	300	1	0.1	21

Type	Marking Code	Zener Voltage [1]			Zener Impedance				Leakage Current	
		V_{ZT} at I_{ZT}		I_{ZT}	Z_{ZT} at I_{ZT}	I_{ZT}	Z_{ZK} at I_{ZK}	I_{ZK}	I_R at V_R	V_R
		Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
MM9Z30	0M	28	32	2	80	2	300	1	0.1	23
MM9Z33	0N	31	35	2	80	2	300	1	0.1	25
MM9Z36	0P	34	38	2	90	2	500	1	0.1	27
MM9Z39	0Q	37	41	2	130	2	500	1	2	30
MM9Z43	0R	40	46	1	150	1	500	1	2	33
MM9Z47	0S	44	50	1	170	1	500	1	2	36
MM9Z51	0T	48	54	1	180	1	500	1	1	39
MM9Z56	0U	52	60	1	200	1	500	1	1	43
MM9Z62	0V	58	66	1	215	1	500	1	0.2	47
MM9Z68	0W	64	72	1	240	1	500	1	0.2	52
MM9Z75	0X	70	79	1	255	1	500	1	0.2	57

[1] Tested with pulses tp=20ms.

Electrical Characteristic Curves

Figure 1. Breakdown characteristics Tj=constant(pulsed)

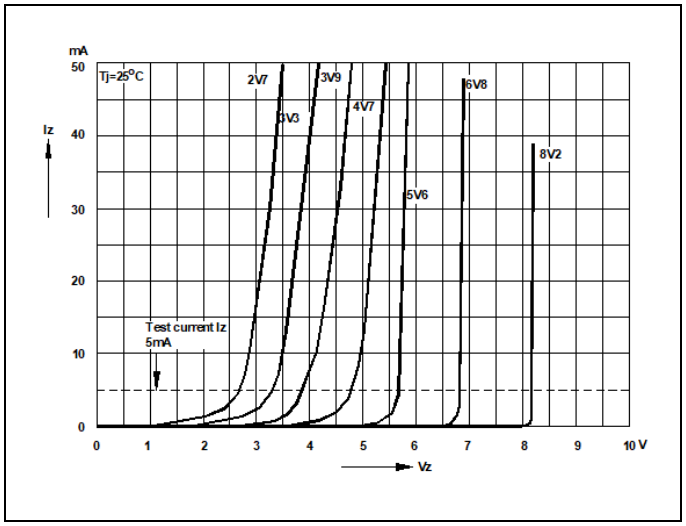


Figure 2.Breakdown characteristics Tj=constant(pulsed)

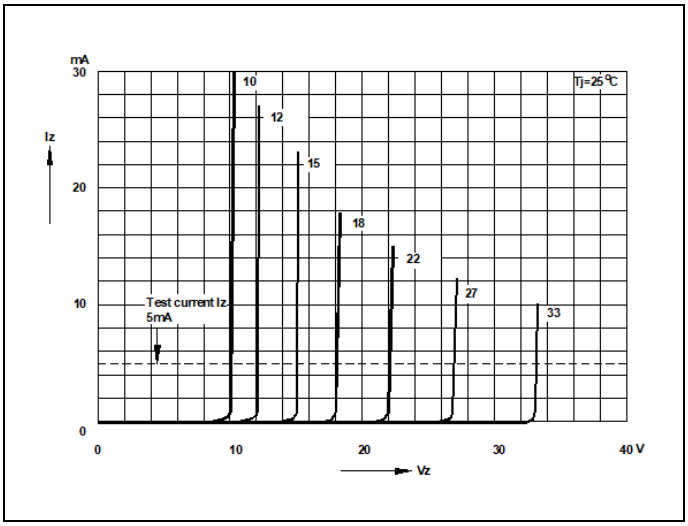
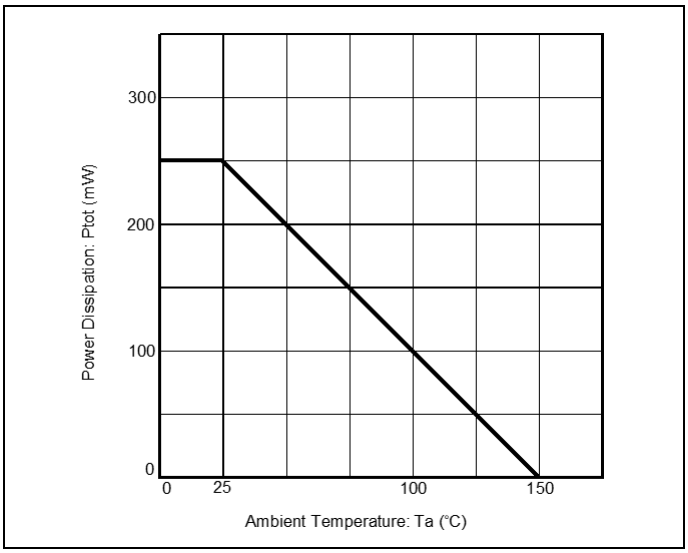
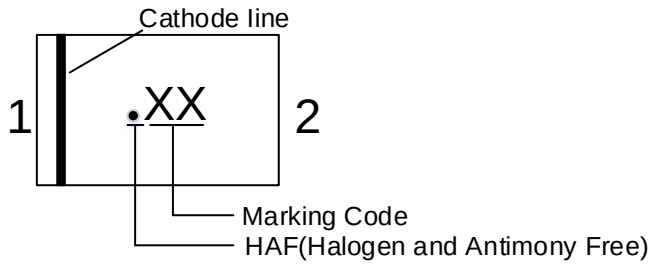


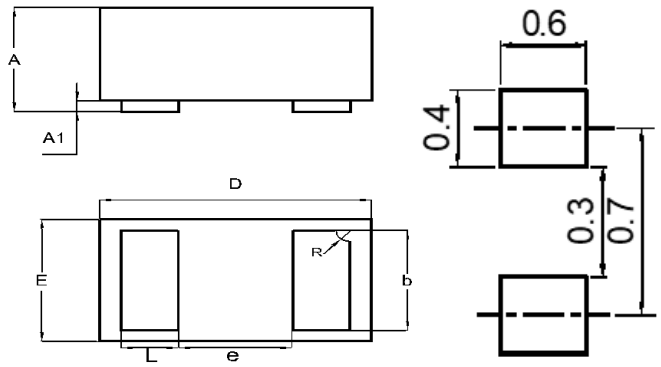
Figure 3.Derating curve



Marking Code



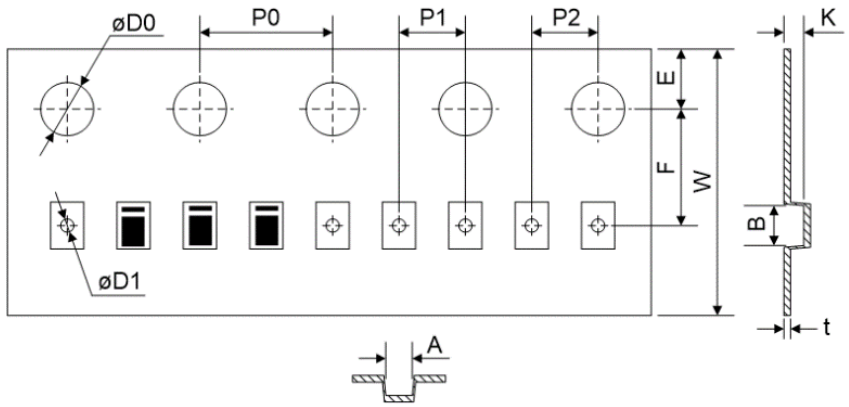
Dimensions (DFN1006-2H)



Symbol	Dimension (mm)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.46	0.51	0.018	0.020
A1	0.00	0.05	0.000	0.002
b	0.45	0.55	0.018	0.022
D	0.95	1.05	0.037	0.041
E	0.55	0.65	0.022	0.026
e	0.40		0.016	
L	0.20	0.30	0.008	0.012
R	0.05	0.15	0.002	0.006

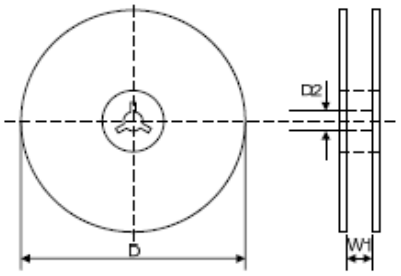
Packaging

Tape



Symbol	Dimension (mm)
W	8.30max.
P0	4.00±0.10
P1	2.00±0.10
P2	2.00±0.10
D0	Φ1.50+0.10
D1	Φ0.60max.
E	1.75±0.10
F	3.50±0.05
A	0.73±0.05
B	1.19±0.05
K	0.57±0.03
t	0.23±0.02

Reel



D	Φ178max.
D2	Φ13±0.50
W1	8.40+1.50

Quantity:10000 PCS

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