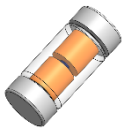
500mW,1 - 75V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Silicon Planar Power Zener Diodes
- Total power dissipation: Max 500mW
- Moisture sensitivity: level 1, per J-STD-020
- Zener voltage tolerance is ±5%
- Suffix-B zener voltage tolerance is ±2%



LL-34(MINI MELF)

Applications

Protection from high voltage, high energy transients, voltage stabilization.

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Zener voltage	V_Z	See Next Table	V
Power dissipation at T_L=75℃	P_{tot}	500	mW
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	300	℃/W
Maximum junction temperature	T_J	175	℃
Storage temperature range	T_{STG}	-65 to +175	℃

Note：

1. Valid provided that leads at a distance of 9.5mm from case are kept at ambient temperature.

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	V_Z at I_{ZT} =5mA (V)					Maximum zener impedance(Ω)		Test voltage V_R (V)	Maximum reverse leakage at V_R (μA)	Maximum Zener Current
	Typ	Min	Max	Suffix-B		I_{ZT}=5mA f=1KHZ	I_{ZT}=1mA f=1KHZ			IZM (mA)
				Min	Max					
ZMM1	1.0	0.95	1.05	0.98	1.02	8	50	-	-	340
ZMM2.4	2.4	2.28	2.52	2.35	2.45	100	600	0.8	50	175
ZMM2.7	2.7	2.57	2.84	2.65	2.75	83	500	0.8	20	160
ZMM3	3.0	2.85	3.15	2.94	3.06	95	500	0.8	20	140
ZMM3.3	3.3	3.14	3.47	3.23	3.37	95	500	0.8	6	130
ZMM3.6	3.6	3.42	3.78	3.53	3.67	95	500	0.8	6	120
ZMM3.9	3.9	3.71	4.10	3.82	3.98	95	500	0.8	1.6	110
ZMM4.3	4.3	4.09	4.52	4.21	4.39	95	500	0.8	1	100
ZMM4.7	4.7	4.47	4.94	4.61	4.79	78	500	0.8	0.1	90
ZMM5.1	5.1	4.85	5.36	5.00	5.20	60	480	0.8	0.1	80
ZMM5.6	5.6	5.32	5.88	5.49	5.71	40	400	1	0.1	70
ZMM6.2	6.2	5.89	6.51	6.08	6.32	10	200	2	0.1	64
ZMM6.8	6.8	6.46	7.14	6.66	6.94	8	150	3	0.1	58
ZMM7.5	7.5	7.13	7.88	7.35	7.65	7	50	5	0.1	53
ZMM8.2	8.2	7.79	8.61	8.04	8.36	7	50	6	0.1	47
ZMM9.1	9.1	8.65	9.56	8.92	9.28	10	50	7	0.1	43
ZMM10	10	9.50	10.50	9.80	10.20	15	70	7.5	0.1	40
ZMM11	11	10.45	11.55	10.78	11.22	20	70	8.5	0.1	36
ZMM12	12	11.40	12.60	11.76	12.24	20	90	9	0.1	32
ZMM13	13	12.35	13.65	12.74	13.26	25	110	10	0.1	29
ZMM15	15	14.25	15.75	14.70	15.30	30	110	11	0.1	27
ZMM16	16	15.20	16.80	15.68	16.32	40	170	12	0.1	24
ZMM18	18	17.10	18.90	17.64	18.36	50	170	14	0.1	21
ZMM20	20	19.00	21.00	19.60	20.40	50	220	15	0.1	20
ZMM22	22	20.90	23.10	21.56	22.44	55	220	17	0.1	18
ZMM24	24	22.80	25.20	23.52	24.48	80	220	18	0.1	16
ZMM27	27	25.65	28.35	26.46	27.54	80	250	20	0.1	14
ZMM30	30	28.50	31.50	29.40	30.60	80	250	22.5	0.1	13
ZMM33	33	31.35	34.65	32.34	33.66	80	250	25	0.1	12
ZMM36	36	34.20	37.80	35.28	36.72	90	250	27	0.1	11
ZMM39	39	37.05	40.95	38.22	39.78	90	300	29	0.1	10
ZMM43	43	40.85	45.15	42.14	43.86	100	700	32	0.1	9.2
ZMM47	47	44.65	49.35	46.06	47.94	100	750	35	0.1	8.5
ZMM51	51	48.45	53.55	49.98	52.02	100	750	38	0.1	7.8
ZMM56	56	53.20	58.80	54.88	57.12	135	1000	42	0.1	7.1
ZMM62	62	58.90	65.10	60.76	63.24	150	1000	47	0.1	6.4

Electrical Characteristics (TA = 25 °C unless otherwise noted)

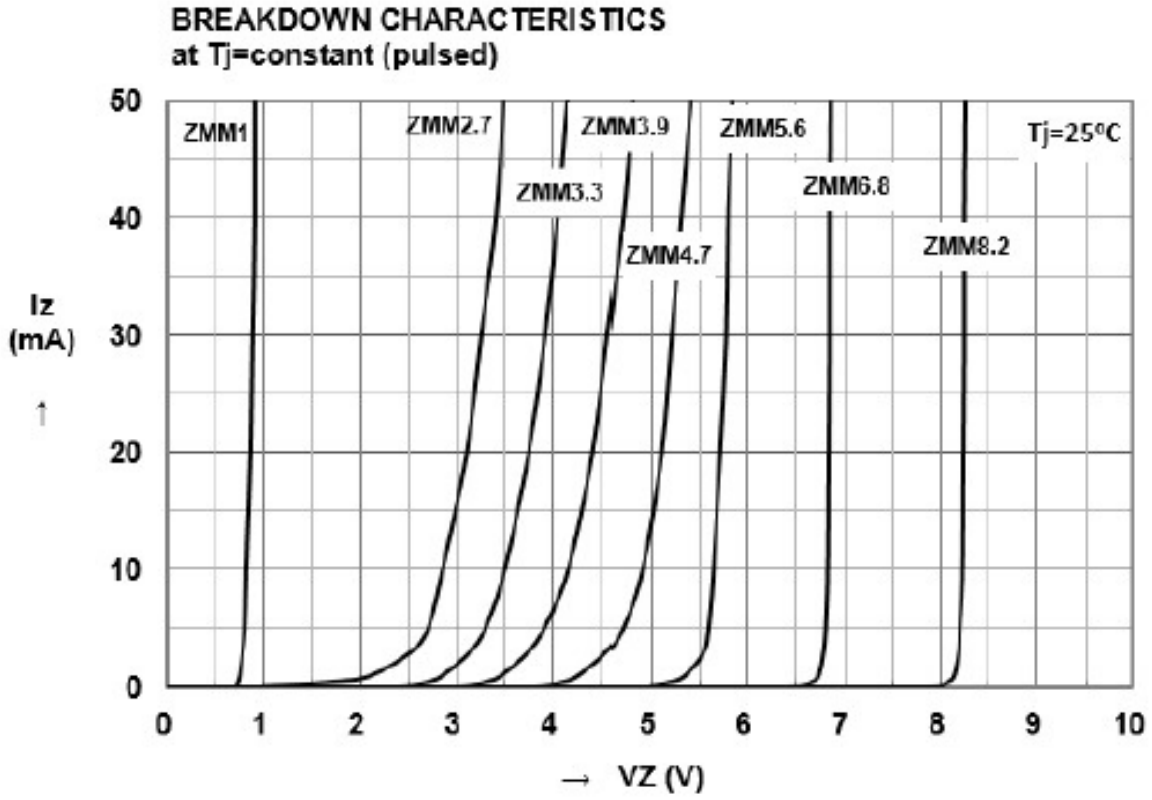
Part Number	V_Z at I_{ZT} =5mA (V)					Maximum zener impedance(Ω)		Test voltage V_R (V)	Maximum reverse leakage at V_R (μA)	Maximum Zener Current
	Typ	Min	Max	Suffix-B		I_{ZT}=5mA f=1KHZ	I_{ZT}=1mA f=1KHZ			IZM (mA)
				Min	Max					
ZMM68	68	64.60	71.40	66.64	69.36	200	1000	51	0.1	5.8
ZMM75	75	71.25	78.75	73.50	76.50	250	1500	55	0.1	5.3

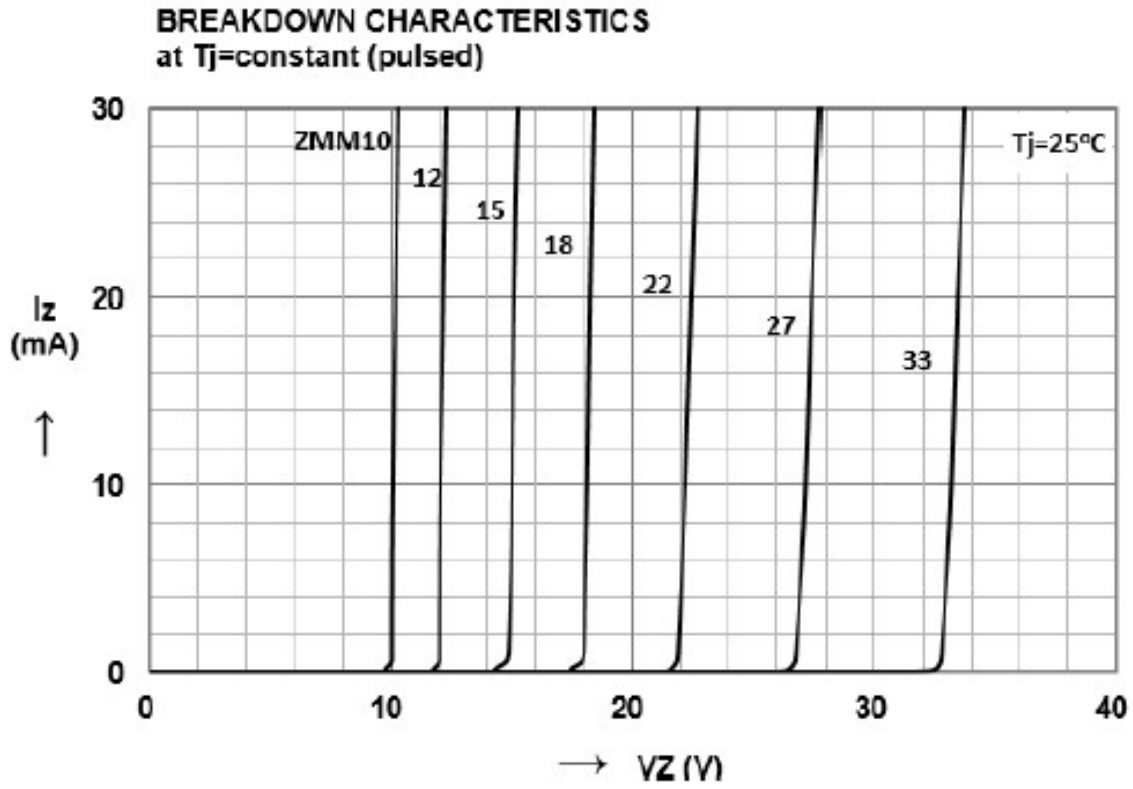
Note：

1. Zener voltage tolerance is ±5%
2. Suffix-B zener voltage tolerance is ±2%

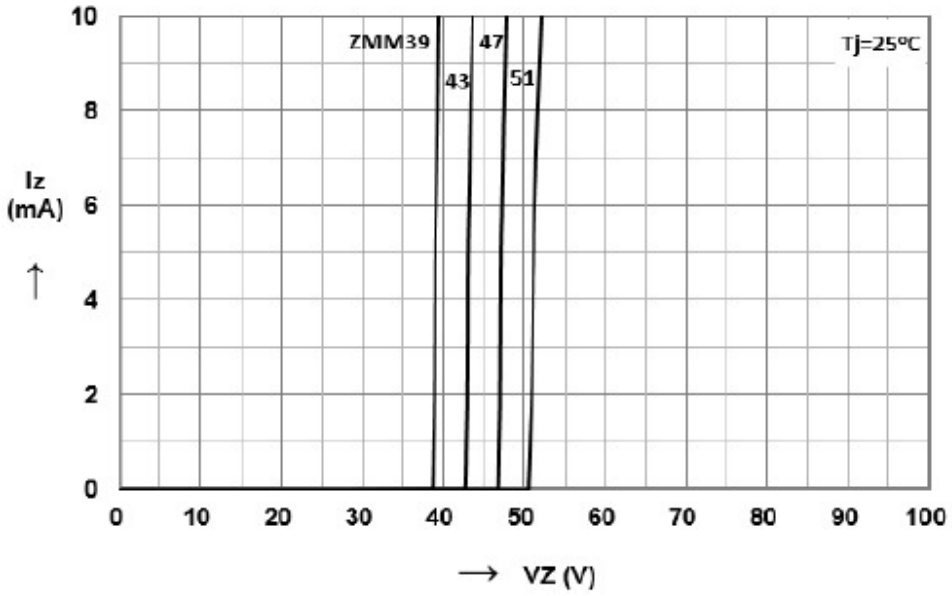
Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)

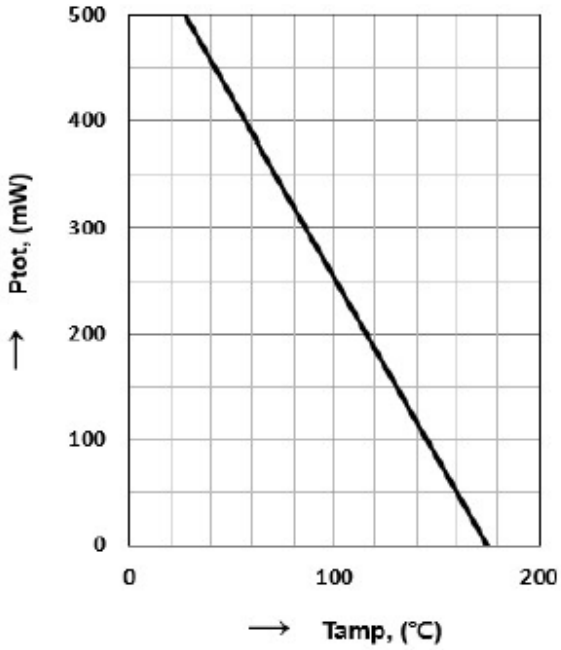




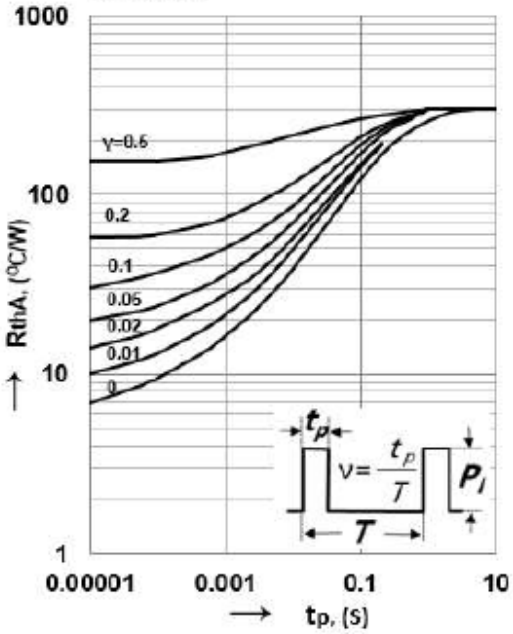
BREAKDOWN CHARACTERISTICS
at Tj=constant (pulsed)

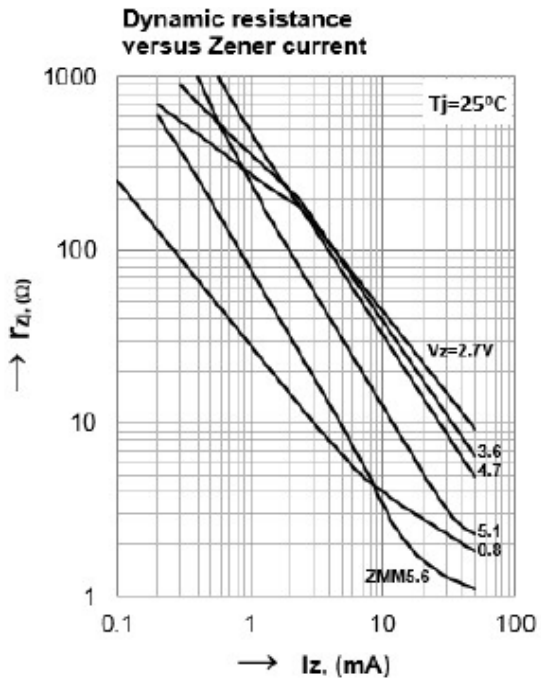


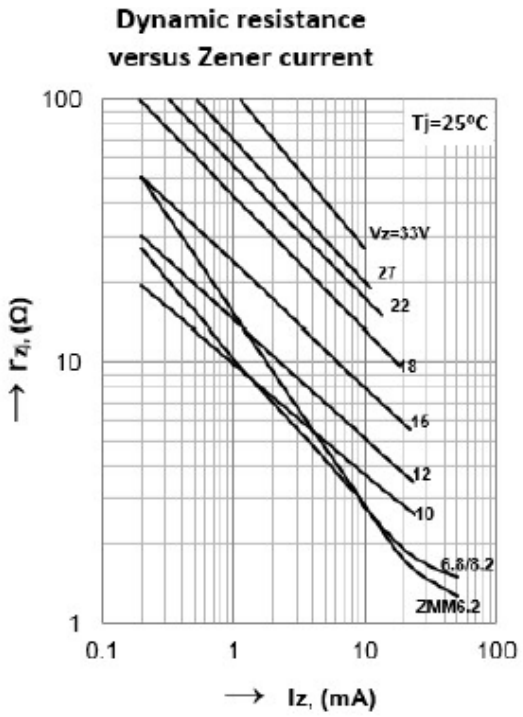
Admissible power dissipation versus ambient temperature
Valid provided that leads are kept at ambient temperature



Pulse thermal resistance versus pulse duration
Valid provided that leads are kept at ambient temperature




Dynamic resistance
versus Zener current
Tj=25°C
Vz=2.7V
3.6
4.7
5.1
6.8
ZMM5.6
1000
100
10
1
0.1
1
10
100
rzj, (Ω)
Iz, (mA)

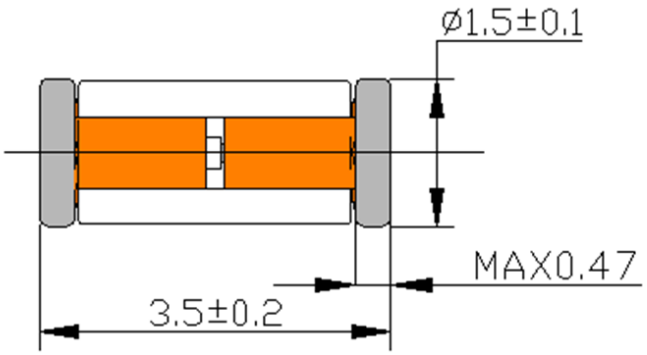

Dynamic resistance
versus Zener current
Tj=25°C
Vz=33V
27
22
18
16
12
10
6.8/8.2
ZMM6.2
100
10
1
0.1
1
10
100
rzj, (Ω)
Iz, (mA)

Package Outline Dimensions

in inches (millimeters)

LL-34 (MINI MELF)

CASE DIMENSION (LL-34 Type) Unit mm



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.31	Modify document format

Disclaimers

These materials are intended as a reference to assist our customers in the selection of the Suzhou Good-Ark product best suited to the customer's application; they do not convey any license under any intellectual property rights, or any other rights, belonging to Suzhou Good-Ark Electronics Co., Ltd.or a third party.

Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, or infringement of any third-party's rights, originating in the use of any product data, diagrams, charts, programs, algorithms, or circuit application examples contained in these materials.

All information contained in these materials, including product data, diagrams, charts, programs and algorithms represents information on products at the time of publication of these materials, and are subject to change by Suzhou Good-Ark Electronics Co., Ltd. without notice due to product improvements or other reasons. It is therefore recommended that customers contact Suzhou Good-Ark Electronics Co., Ltd. or an authorized Suzhou Good-Ark Electronics Co., Ltd. for the latest product information before purchasing a product listed herein. The information described here may contain technical inaccuracies or typographical errors. Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, liability, or other loss rising from these inaccuracies or errors. Please also pay attention to information published by Suzhou Good-Ark Electronics Co., Ltd. by various means, including our website home page.
(http://www.goodark.com)

When using any or all of the information contained in these materials, including product data, diagrams, charts, programs, and algorithms, Please be sure to evaluate all information as a total system before making a final decision on the applicability of the information and products. Suzhou Good-Ark Electronics Co., Ltd. assumes no responsibility for any damage, liability or other loss resulting from the information contained herein.

The prior written approval of Suzhou Good-Ark Electronics Co., Ltd. is necessary to reprint or reproduce in whole or in part these materials.

Please contact Suzhou Good-Ark Electronics Co., Ltd. or an authorized distributor for further details on these materials or the products contained herein.