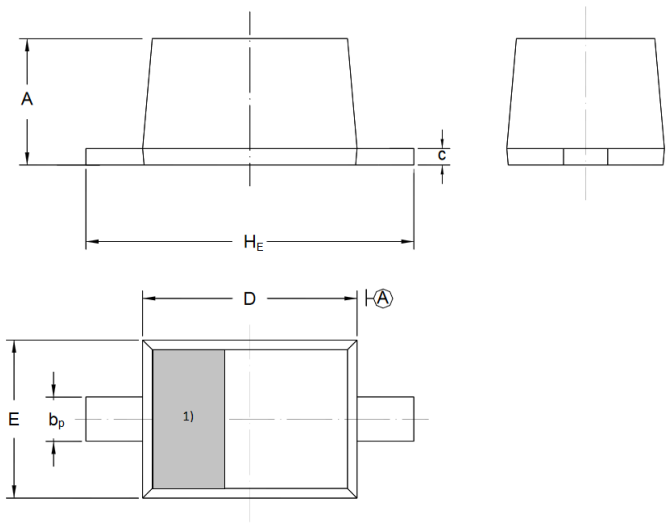
Silicon SMD Voltage Regulator Zener Diodes

Primary characteristics		
Parameter	**Value**	**Unit**
V_Z range nom.	2.0 to 75	V
Power rating	300	mW
V_Z tolerance	±5	%

Features

- Common cylindrical glass **SOD-323 (SC-76)** case for easy automatic insertion.
- Pb-Free and **RoHS** Compliant

Case dimensions



1)The marking band indicates the cathode

SOD-323

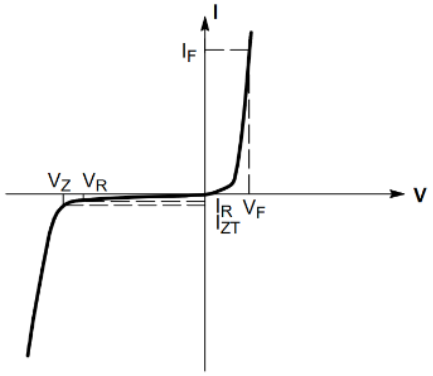
Unit	A	b_p	c	D	E	H_E
mm	0.95 ±0.15	0.35 +0.05/-0.1	0.125 ±0.025	1.70 ±0.10	1.25 ±0.10	2.55 ±0.25

Part numbering system	
MM3Z	**8V2**
↓	↓
Series code	Reverse Zener Voltage (see: Characteristics Table)

Absolute maximum ratings (T_a = 25°C)			
Parameter	**Symbol**	**Value**	**Unit**
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_s	-55 to +150	°C

Characteristics (T_a = 25°C)			
Parameter	**Symbol**	**Max.**	**Unit**
Thermal Resistance: Junction to Ambient Air	R_{thA}	417	°C/W
Forward Voltage at I_F = 100mA	V_F	900	mV

Parameters list	
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 Voltage @ I_F



Zener Voltage Regulator

Characteristics table (T_a = 25°C)

Type	Marking Code	Zener Voltage Range[1)]			Dynamic Resistance		Reverse Leakage Current	
		V_Z nom. V	I_{ZT} mA	V_{ZT} V	r_{ZJT} Ω	I_{ZK} mA	T_a = 25°C µA	I_R at V_R V
MM3Z2V0	B0	2.0	5.0	1.80 ~ 2.15	<100	1.0	<120	0.5
MM3Z2V2	C0	2.2	5.0	2.08 ~ 2.33	<100	1.0	<120	0.7
MM3Z2V4	1C	2.4	5.0	2.28 ~ 2.56	<100	1.0	<120	1.0
MM3Z2V7	1D	2.7	5.0	2.50 ~ 2.90	<110	1.0	<120	1.0
MM3Z3V0	1E	3.0	5.0	2.80 ~ 3.20	<120	1.0	<50	1.0
MM3Z3V3	1F	3.3	5.0	3.10 ~ 3.50	<130	1.0	<20	1.0
MM3Z3V6	1H	3.6	5.0	3.40 ~ 3.80	<130	1.0	<10	1.0
MM3Z3V9	1J	3.9	5.0	3.70 ~ 4.10	<130	1.0	<5.0	1.0
MM3Z4V3	1K	4.3	5.0	4.00 ~ 4.60	<130	1.0	<5.0	1.0
MM3Z4V7	1M	4.7	5.0	4.40 ~ 5.00	<130	1.0	<2.0	1.0
MM3Z5V1	1N	5.1	5.0	4.80 ~ 5.40	<130	1.0	<2.0	1.5
MM3Z5V6	1P	5.6	5.0	5.20 ~ 6.00	<80	1.0	<1.0	2.5
MM3Z6V2	1R	6.2	5.0	5.80 ~ 6.60	<50	1.0	<1.0	3.0
MM3Z6V8	1X	6.8	5.0	6.40 ~ 7.20	<30	1.0	<0.5	3.5
MM3Z7V5	1Y	7.5	5.0	7.00 ~ 7.90	<30	1.0	<0.5	4.0
MM3Z8V2	1Z	8.2	5.0	7.70 ~ 8.70	<30	1.0	<0.5	5.0
MM3Z9V1	2A	9.1	5.0	8.50 ~ 9.60	<30	1.0	<0.5	6.0
MM3Z10	2B	10	5.0	9.40 ~ 10.6	<30	1.0	<0.1	7.0
MM3Z11	2C	11	5.0	10.4 ~ 11.6	<30	1.0	<0.1	8.0
MM3Z12	2D	12	5.0	11.4 ~ 12.7	<35	1.0	<0.1	9.0
MM3Z13	2E	13	5.0	12.4 ~ 14.1	<35	1.0	<0.1	10
MM3Z15	2F	15	5.0	13.8 ~ 15.6	<40	1.0	<0.1	11
MM3Z16	2H	16	5.0	15.3 ~ 17.1	<40	1.0	<0.1	12
MM3Z18	2J	18	5.0	16.8 ~ 19.1	<45	1.0	<0.1	13
MM3Z20	2K	20	5.0	18.8 ~ 21.2	<50	1.0	<0.1	15
MM3Z22	2M	22	5.0	20.8 ~ 23.3	<55	1.0	<0.1	17
MM3Z24	2N	24	5.0	22.8 ~ 25.6	<60	1.0	<0.1	19
MM3Z27	2P	27	2.0	25.1 ~ 28.9	<70	1.0	<0.1	21
MM3Z30	2R	30	2.0	28.0 ~ 32.0	<80	1.0	<0.1	23
MM3Z33	2X	33	2.0	31.0 ~ 35.0	<80	1.0	<0.1	25
MM3Z36	2Y	36	2.0	34.0 ~ 38.0	<90	1.0	<0.1	27
MM3Z39	2Z	39	2.0	37.0 ~ 41.0	<100	0.5	<0.1	30
MM3Z43	3A	43	2.0	40.0 ~ 46.0	<130	0.5	<0.1	33
MM3Z47	3B	47	2.0	44.0 ~ 50.0	<150	0.5	<0.1	36

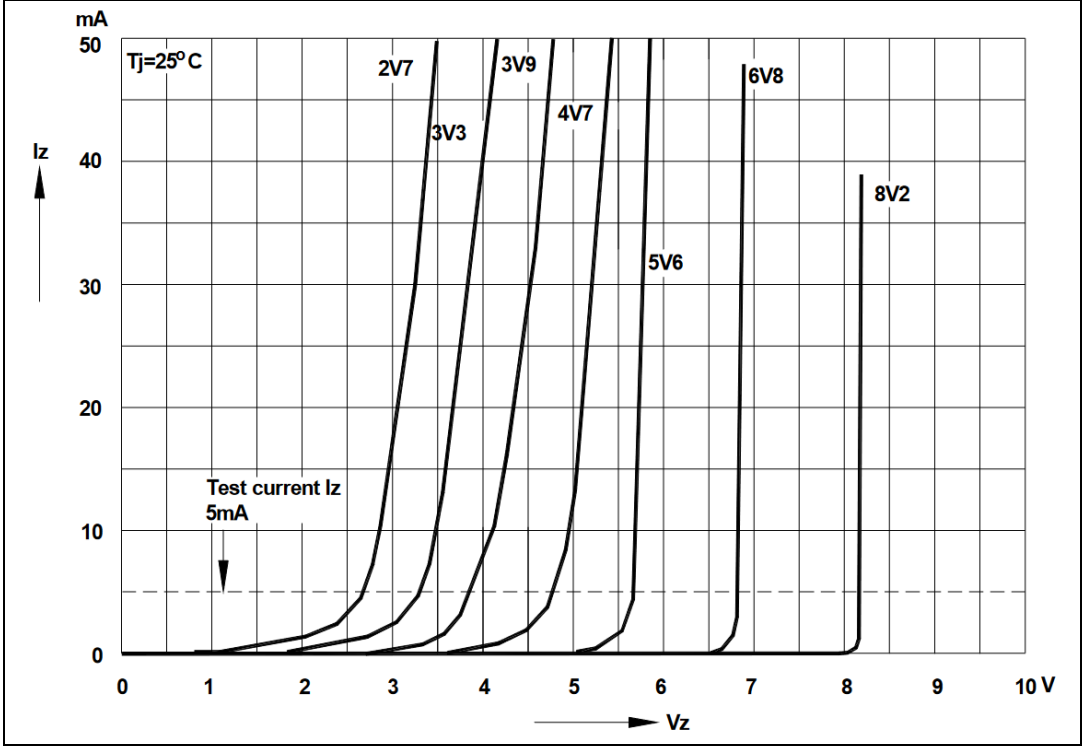
Characteristics table (T_a = 25°C)

Type	Marking Code	Zener Voltage Range[1]			Dynamic Resistance		Reverse Leakage Current	
		V_Z nom. V	I_{ZT} mA	V_{ZT} V	r_{ZJT} Ω	I_{ZK} mA	T_a = 25°C µA	I_R at V_R V
MM3Z51	3C	51	2.0	48.0 ~ 54.0	<180	0.5	<0.1	39
MM3Z56	3D	56	2.0	52.0 ~ 60.0	<200	0.5	<0.1	43
MM3Z62	3E	62	2.0	58.0 ~ 66.0	<215	0.5	<0.1	47
MM3Z68	3F	68	2.0	64.0 ~ 72.0	<240	0.5	<0.1	52
MM3Z75	3H	75	2.0	70.0 ~ 79.0	<265	0.5	<0.1	56

[1] Tested with pulses t_p = 20 ms

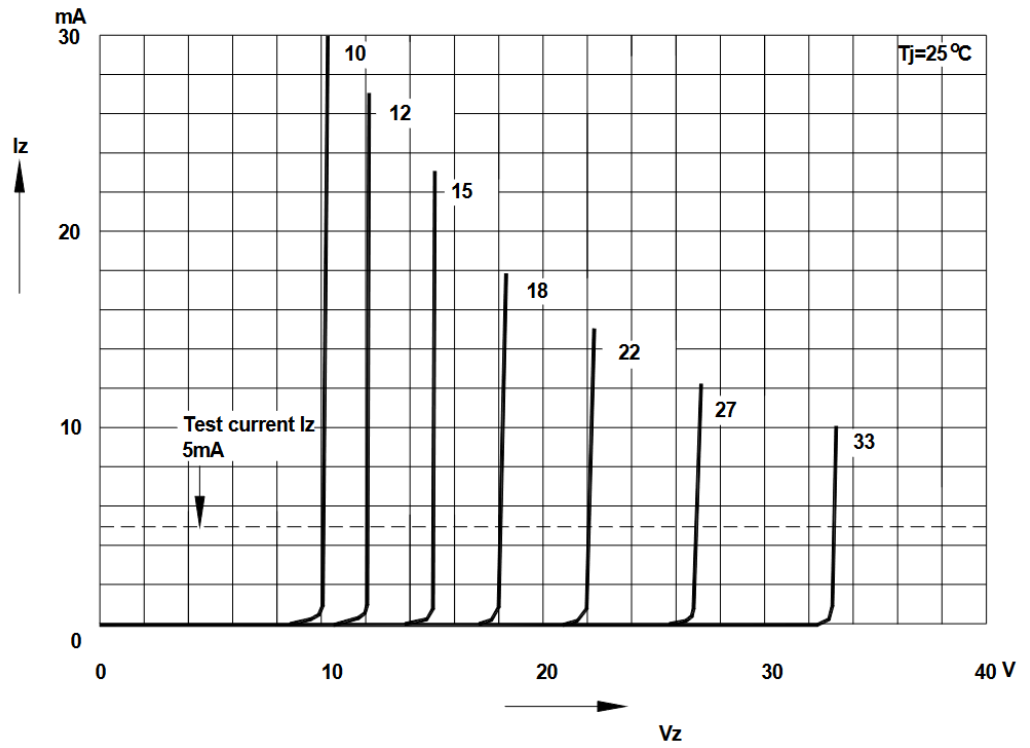
Breakdown characteristics

T_j = constant (pulsed)

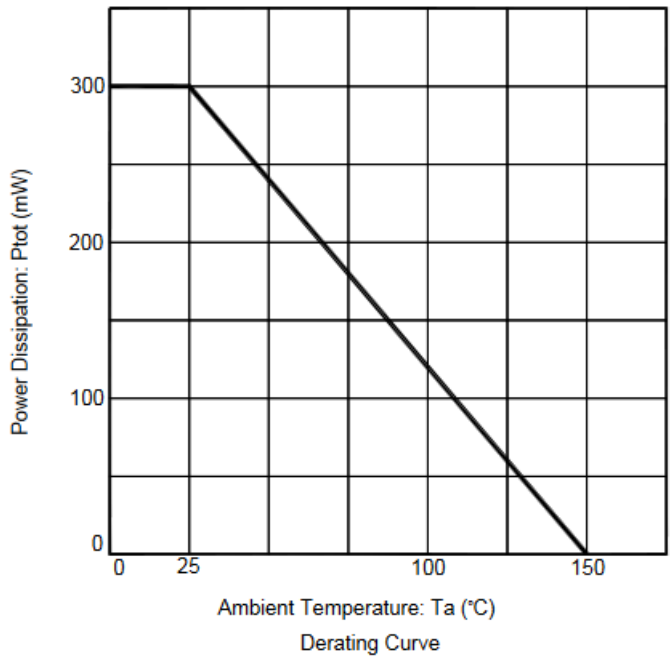


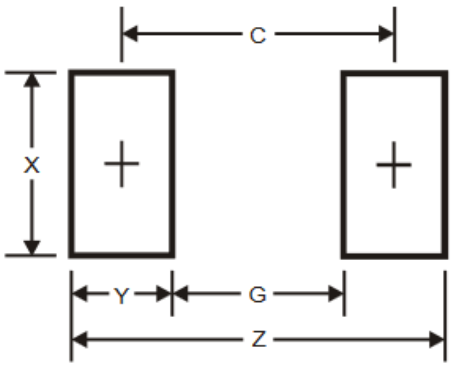
Breakdown characteristics

T_j = constant (pulsed)



Power dissipation over ambient temperature



Suggested soldering pad layout

SOD-323

Pad dimensions

Unit	Z	G	X	Y	C
mm	3.75	1.05	0.65	1.35	2.40

Ordering information

Part Number	Package	Shipping Quantity	Dimensions
MM3Z2V0 ~ MM3Z75	SOD-323 (SC-76)	**3000 pcs / reel**	---

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