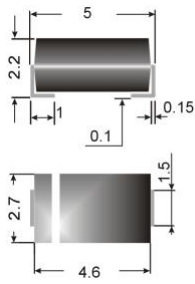


# Z1 SMA 1 ... Z1 SMA 100 (1W)



Surface mount diode

## Zener silicon diodes

### Z1 SMA 1 ... Z1 SMA 100 (1W)

**Maximum Power Dissipation: 1 W**

**Nominal Z-voltage: 1 to 100 V**

### Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0
- Standard Zener voltage tolerance is graded to the international E 24 (5%) standard. Other voltage tolerances and higher Zener voltages on request.

### Mechanical Data

- Plastic case: SMA / DO-214AC
- Weight approx.: 0,07 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 7500 pieces per reel

1) Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal. Tested with pulses. The Z1SMA1 is a diode operated in forward. Hence, the index of all parameters should be "F" instead of "Z". The cathode, indicated by a white ring is to be connected to the negative pole.

Absolute Maximum Ratings		T <sub>s</sub> = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
P <sub>tot</sub>	Power dissipation, T <sub>A</sub> = 50 °C <sup>1)</sup>	1	W
P <sub>ZSM</sub>	Non repetitive peak power dissipation, t < 10 ms		V
R <sub>thA</sub>	Max. thermal resistance junction to ambient <sup>1)</sup>	70	K/W
R <sub>thT</sub>	Max. thermal resistance junction to case	30	K/W
T <sub>j</sub>	Operating junction temperature	- 50 ... + 150	°C
T <sub>s</sub>	Storage temperature	- 50 ... + 150	°C

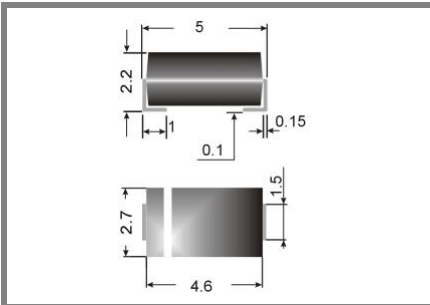
Type	Zener Voltage V <sub>Z</sub> @I <sub>ZT</sub>		Test curr. I <sub>ZT</sub> mA	Dyn. Resistance			Temp. Coeffiz. of V <sub>Z</sub> 10 <sup>-4</sup> °C	Reverse curr.		Z curr. T <sub>A</sub> = 50 °C i <sub>Zmax</sub> mA
	V <sub>Zmin</sub> V	V <sub>Zmax</sub> V		Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>ZK</sub> mA		I <sub>R</sub> μA	V <sub>R</sub> V	
Z1SMA1	0,71	0,82	5	6,5 (<8)			- 26 ... - 23		-	500
Z1SMA5,1	4,8	5,4	5	30 (<60)			- 8 ... - 3	3	> 0,5	185
Z1SMA5,6	5,2	6	5	10 (<40)			- 7 ... - 3	3	>0,5	167
Z1SMA6,2	5,8	6,6	5	4,8 (<11)			- 6 ... - 1	1	>1,5	152
Z1SMA6,8	6,4	7,2	5	4,5 (<10)			- 5 ... + 2	1	> 2	139
Z1SMA7,5	7	7,9	5	4 (<9)			- 3 ... + 4	1	> 2	127
Z1SMA8,2	7,7	8,7	5	4,5 (<10)			- 2 ... + 6	1	> 3,5	115
Z1SMA9,1	8,5	9,6	5	4,8 (<11)			- 1 ... + 7	1	>3,5	104
Z1SMA10	9,4	10,6	5	5,2 (<15)			+ 2 ... + 7	1	>7,5	94
Z1SMA11	10,4	11,6	5	6 (<20)			+ 3 ... + 7	1	>8,5	86
Z1SMA12	11,4	12,7	5	7 (<20)			+ 4 ... + 7	1	> 9	79
Z1SMA13	12,4	14,1	5	9 (<25)			+ 5 ... + 8	1	> 10	71
Z1SMA15	13,8	15,6	5	11 (<30)			+ 5 ... + 8	1	> 11	64
Z1SMA16	15,3	17,1	5	13 (<40)			+ 5 ... + 9	1	> 12	58
Z1SMA18	16,8	19,1	5	18 (<50)			+ 6 ... + 9	1	> 14	52
Z1SMA20	18,8	21,2	5	20 (<50)			+ 7 ... + 9	1	> 15	47
Z1SMA22	20,8	23,3	5	25 (<55)			+ 7 ... + 9	1	> 17	43
Z1SMA24	22,8	25,6	5	28 (<80)			+ 7 ... + 9,5	1	> 18	39
Z1SMA27	25,1	28,9	5	30 (<80)			+ 8 ... + 9,5	1	> 20	35
Z1SMA30	28	32	5	35 (<80)			+ 8 ... + 9,5	1	>22,5	31
Z1SMA33	31	35	5	40 (<80)			+ 8 ... + 10	1	> 25	29
Z1SMA36	34	38	5	40 (<90)			+ 8 ... + 10	1	> 27	26
Z1SMA39	37	41	5	50 (<90)			+ 8 ... + 10	1	> 29	24
Z1SMA43	40	46	5	60 (<100)			+ 8 ... + 10	1	> 32	22
Z1SMA47	44	50	5	70 (<100)			+ 8 ... + 10	1	> 35	20
Z1SMA51	48	54	5	70 (<100)			+ 8 ... + 10	1	> 38	19
Z1SMA56	52	60	5	70 (<100)			+ 9 ... + 11	1	> 42	17
Z1SMA62	58	66	5	80			+ 9 ... + 11	1	> 47	15

# Z1 SMA 1 ... Z1 SMA 100 (1W)

Type	Zener Voltage $V_Z@I_{ZT}$		Test curr. $I_{ZT}$ mA	Dyn. Resistance			Temp. Coeffiz. of $V_Z$ $10^{-4}$ °C	Reverse curr.		Z curr. $T_A = 50$ °C $i_{Zmax}$ mA
	$V_{Zmin}$	$V_{Zmax}$		$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	$I_{ZK}$		$I_R$	$V_R$	
	V	V				mA		µA	V	
Z1SMA68	64	72	5	90 ( $<140$ )			+ 9 ... + 12	1	> 51	14
Z1SMA75	70	79	5	95 ( $<150$ )			+ 9 ... + 12	1	> 56	13
Z1SMA82	77	88	5	100( $<170$ )			+ 9 ... + 12	1	> 62	11
Z1SMA91	85	96	5	130( $<200$ )			+ 10 ... + 12	1	> 68	10
Z1SMA100	94	106	5	200( $<300$ )			+ 10 ... + 12	1	> 75	9

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Surface mount diode

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	$V_{Zmin}$ V	$V_{Zmax}$ V		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$ mA		$I_R$ $\mu\text{A}$	$V_R$ V	

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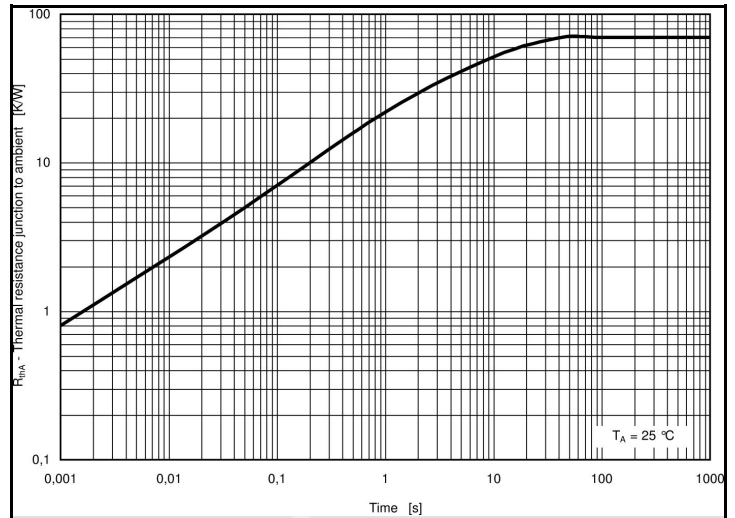


Fig. 1, Typical Transient Thermal Impedance junction to ambient