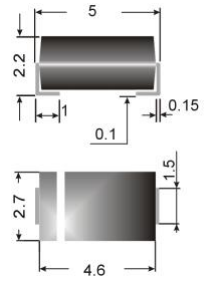
Z1 SMA 1 ... Z1 SMA 100 (1W)



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^2 copper pads at each terminalTested with pulsesThe 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_s = 25 °C, unless otherwise specified

Symbol	Conditions	Values	Units
P_{tot}	Power dissipation, T_A = 50 °C 1)	1	W
P_{ZSM}	Non repetitive peak power dissipation, t < 10 ms		V
R_{thA}	Max. thermal resistance junction to ambient 1)	70	K/W
R_{thT}	Max. thermal resistance junction to case	30	K/W
T_j	Operating junction temperature	- 50 ... + 150	°C
T_s	Storage temperature	- 50 ... + 150	°C

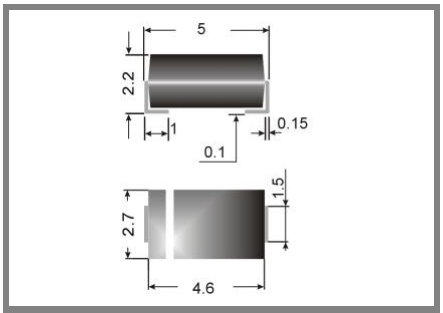
Type	Zener Voltage V_Z@I_{ZT}		Test curr. I_{ZT}	Dyn. Resistance			Temp. Coeffiz. of V_z	Reverse curr.		Z curr. T_A = 50 °C
	V_{Zmin}	V_{Zmax}		Z_{ZT}@ I_{ZT}	Z_{ZK}@ I_{ZK}	I_{ZK}	10^{-4}	I_R	V_R	i_{Zmax}
	V	V	mA			mA	°C	µA	V	mA
Z1SMA1	0,71	0,82	5	6,5 (<8)			- 26 ... - 23		-	500
Z1SMA5,1	4,8	5,4	5	30 (<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

 © by SEMIKRON

Type	Zener Voltage $V_Z@I_{ZT}$		Test curr. I_{ZT}	Dyn. Resistance			Temp. Coeffiz. of V_z	Reverse curr.		Z curr. T_A = 50 °C
	V_{Zmin}	V_{Zmax}		$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	10^{-4}	I_R	V_R	i_{Zmax}
	V	V	mA			mA	°C	µA	V	mA
				110)						
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

 © by SEMIKRON

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^2 copper pads at each terminalTested with pulsesThe 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.

Type	Zener Voltage $V_Z@I_{ZT}$		Test curr. I_{ZT}	Dyn. Resistance			Temp. Coeffiz. of V_z	Reverse curr.		Z curr. T_A = 50 °C
	V_{Zmin}	V_{Zmax}		$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	10^{-4}	I_R	V_R	i_{Zmax}
	V	V	mA			mA	°C	µA	V	mA

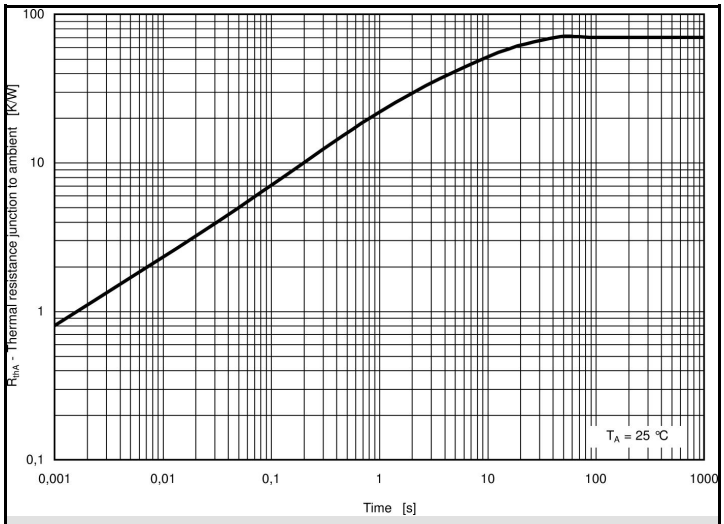


Fig. 1, Typical Transient Thermal Impedance junction to ambient

 © by SEMIKRON