



SMA47-SERIES

1W Silicon Planar Zener Diodes

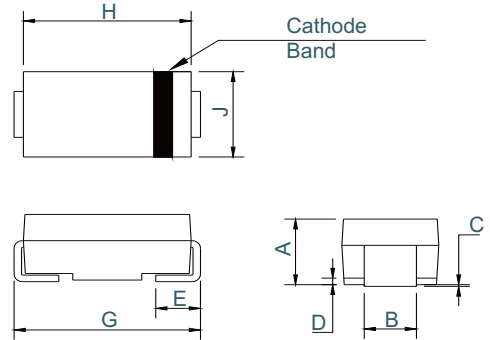
FEATURE

- Voltage Range 3.3 to 100 Volts
- Low zener impedance
- Low regulation factor
- Glass passivated junction
- High reliability
- Standard zener voltage tolerance is $\pm 5\%$.

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic body over passivated chip
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.07 grams

SMA-(DO-214AC)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum Forward Voltage at IF = 200 mA.	VF	1.2	V
Power Dissipation at Tamb=75 °C(Note 1)	PD	1000	mW
Junction temperature	TJ	150	°C
Storage temperature range	TS	-65 to +150	°C

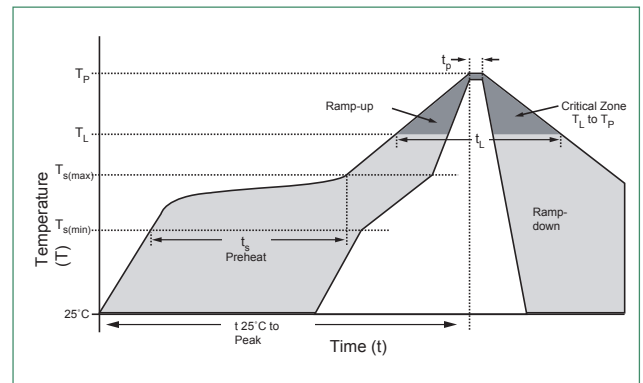
Note 1: P.C.B. Mounted on 0.31x0.31x0.08" (8x8x2mm) copper areas pads.

DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.067	0.091	1.70	2.31	
B	0.051	0.067	1.29	1.70	
C	0.002	0.008	0.051	0.203	
D	—	0.020	—	0.51	
E	0.030	0.060	0.76	1.52	
G	0.185	0.209	4.70	5.31	
H	0.157	0.181	4.00	4.60	
J	0.086	0.110	2.18	2.79	

Soldering Parameters

Reflow Condition	Lead-free assembly	
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)	3°C/second max	
$T_{s(max)}$ to T_L - Ramp-up Rate	3°C/second max	
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (min to max) (t_s)	60 – 150 seconds
Peak Temperature (T_p)	260+0/-5 °C	
Time within 5°C of actual peak Temperature (t_p)	20 – 40 seconds	
Ramp-down Rate	6°C/second max	
Time 25°C to peak Temperature (T_p)	8 minutes Max.	
Do not exceed	280°C	





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ELECTRICAL CHARACTERISTICS (TA = 25 °C unless otherwise noted)

Part Number	Device Marking	Nominal Zener Voltage	Test Current	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum Regulator Current	Maximum Surge Current
		Vz@IZT	IZT	ZZT@IZT	ZZK@IZK	IZK	IR	@VR	IZM	IRM ⁽²⁾
		Volts	mA	Ohms	Ohms	mA	μA	Volts	mA	mA
SMA4728A	728A	3.3	76.0	10	400	1.0	100	1.0	276	1380
SMA4729A	729A	3.6	69.0	10	400	1.0	100	1.0	252	1260
SMA4730A	730A	3.9	64.0	9.0	400	1.0	50	1.0	234	1190
SMA4731A	731A	4.3	58.0	9.0	400	1.0	10	1.0	217	1070
SMA4732A	732A	4.7	53.0	8.0	500	1.0	10	1.0	193	970
SMA4733A	733A	5.1	49.0	7.0	550	1.0	10	1.0	178	890
SMA4734A	734A	5.6	45.0	5.0	600	1.0	10	2.0	162	810
SMA4735A	735A	6.2	41.0	2.0	700	1.0	10	3.0	146	730
SMA4736A	736A	6.8	37.0	3.5	700	1.0	10	4.0	133	660
SMA4737A	737A	7.5	34.0	4.0	700	0.5	10	5.0	121	605
SMA4738A	738A	8.2	31.0	4.5	700	0.5	10	6.0	110	550
SMA4739A	739A	9.1	28.0	5.0	700	0.5	10	7.0	100	500
SMA4740A	740A	10	25.0	7.0	700	0.25	10	7.6	91	454
SMA4741A	741A	11	23.0	8.0	700	0.25	5.0	8.4	83	414
SMA4742A	742A	12	21.0	9.0	700	0.25	5.0	9.1	76	380
SMA4743A	743A	13	19.0	10	700	0.25	5.0	9.9	69	344
SMA4744A	744A	15	17.0	14	700	0.25	5.0	11.4	61	305
SMA4745A	745A	16	15.5	16	700	0.25	5.0	12.2	57	285
SMA4746A	746A	18	14.0	20	750	0.25	5.0	13.7	50	250
SMA4747A	747A	20	12.5	22	750	0.25	5.0	15.2	45	225
SMA4748A	748A	22	11.5	23	750	0.25	5.0	16.7	41	205
SMA4749A	749A	24	10.5	25	750	0.25	5.0	18.2	38	190
SMA4750A	750A	27	9.5	35	750	0.25	5.0	20.6	34	170
SMA4751A	751A	30	8.5	40	1000	0.25	5.0	22.8	30	150
SMA4752A	752A	33	7.5	45	1000	0.25	5.0	25.1	27	135
SMA4753A	753A	36	7.0	50	1000	0.25	5.0	27.4	25	125
SMA4754A	754A	39	6.5	60	1000	0.25	5.0	29.7	23	115
SMA4755A	755A	43	6.0	70	1500	0.25	5.0	32.7	22	110
SMA4756A	756A	47	5.5	80	1500	0.25	5.0	35.8	19	95
SMA4757A	757A	51	5.0	95	1500	0.25	5.0	38.8	18	90
SMA4758A	758A	56	4.5	110	2000	0.25	5.0	42.6	16	80
SMA4759A	759A	62	4.0	125	2000	0.25	5.0	47.1	14	70
SMA4760A	760A	68	3.7	150	2000	0.25	5.0	51.7	13	65
SMA4761A	761A	75	3.3	175	2000	0.25	5.0	56.0	12	60
SMA4762A	762A	82	3.0	200	3000	0.25	5.0	62.2	11	55
SMA4763A	763A	91	2.8	250	3000	0.25	5.0	69.2	10	50
SMA4764A	764A	100	2.5	350	3000	0.25	5.0	76.0	9.0	45.0

Notes :

- (1) The type number listed have A standard tolerance on the nominal zener voltage of $\pm 5\%$.
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC Method





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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Figure 1 - Breakdown characteristics

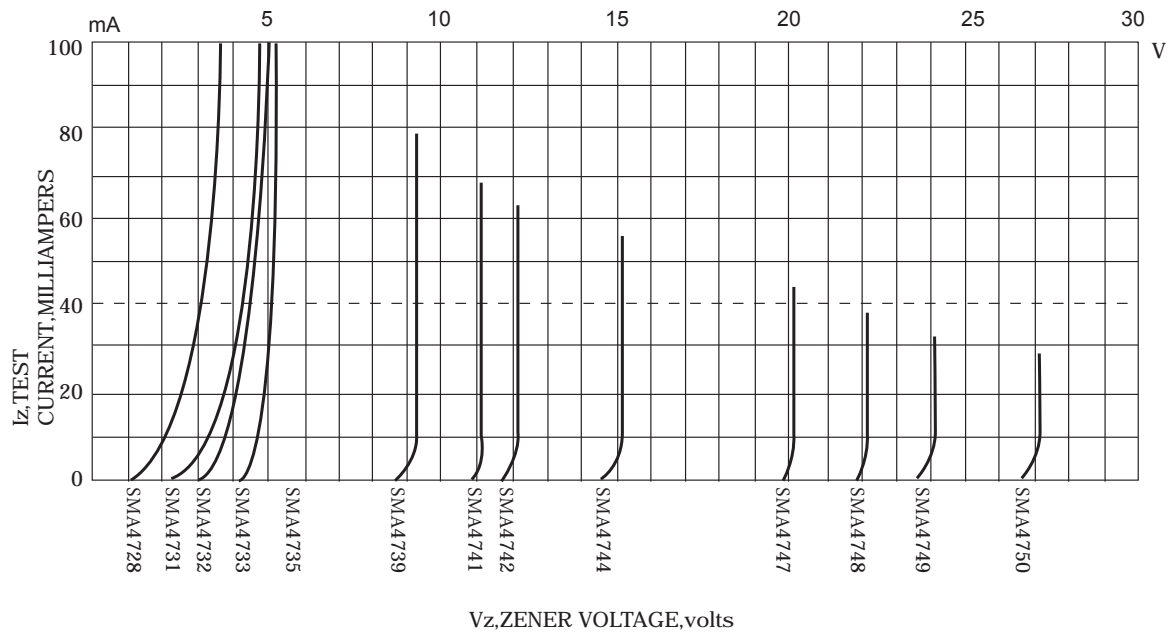


Figure 2 - Admissible power dissipation versus ambient temperature

