

1SMA4728A~SZ1330A

1.0W SURFACE MOUNT ZENER DIODE

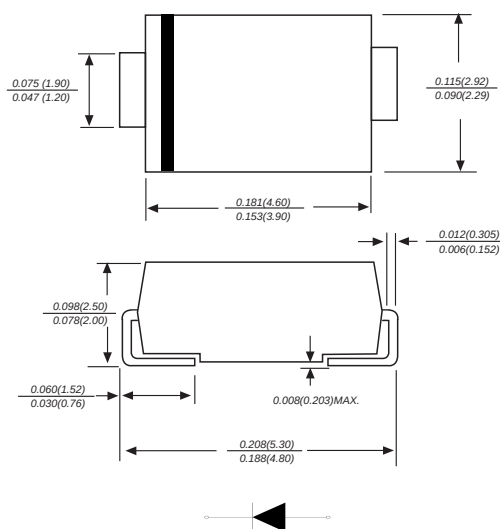
Features

- Glass Passivated Die Construction
- 1.0W Power Dissipation
- 3.3V – 330V Nominal Zener Voltage
- 5% Standard Vz Tolerance
- Low Inductance
- For Use in Voltage Regulator or Reference
- Plastic Case Material has UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Marking: Device Code
- Weight: 0.064 grams (approx.)

DO-214AC/SMA



Dimensions in inches and (millimeters)

Maximum Ratings @T_A=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation at T _L = 75°C (Note 1)	P _D	1.0	W
Forward Voltage @ I _F = 200mA	V _F	1.2	V
Thermal Resistance, Junction to Ambient (Note 2)	R _{θJA}	125	°C/W
Thermal Resistance, Junction to Lead (Note 2)	R _{θJL}	30	
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Note: 1. Mounted on FR-4 PCB with 8.0 x 8.0 x 2.0mm copper pads.

2. Mounted on 25.4 x 21.6 x 1.6mm ceramic substrate with minimum recommended pad layout.

Electrical Characteristics (@T_A=25°C unless otherwise specified)

Type Number (Note 1)	Device Marking Code	Nominal Zener Voltage (Note 2)	Test Current	Maximum Zener Impedance (Note 3)			Maximum Leakage Current		Max DC Zener Current	Max Surge Current 8.3ms
		V _Z @ I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R		I _{ZM}	I _{ZS}
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)	(mA)
1SMA4728A	728A	3.3	76.0	10	400	1.00	100	1.0	276	1380
1SMA4729A	729A	3.6	69.0	10	400	1.00	100	1.0	252	1260
1SMA4730A	730A	3.9	64.0	9.0	400	1.00	50	1.0	234	1190
1SMA4731A	731A	4.3	58.0	9.0	400	1.00	10	1.0	217	1070
1SMA4732A	732A	4.7	53.0	8.0	500	1.00	10	1.0	193	970
1SMA4733A	733A	5.1	49.0	7.0	550	1.00	10	1.0	178	890
1SMA4734A	734A	5.6	45.0	5.0	600	1.00	10	2.0	162	810
1SMA4735A	735A	6.2	41.0	2.0	700	1.00	10	3.0	146	730
1SMA4736A	736A	6.8	37.0	3.5	700	1.00	10	4.0	133	660
1SMA4737A	737A	7.5	34.0	4.0	700	0.50	10	5.0	121	605
1SMA4738A	738A	8.2	31.0	4.5	700	0.50	10	6.0	110	550
1SMA4739A	739A	9.1	28.0	5.0	700	0.50	10	7.0	100	500
1SMA4740A	740A	10	25.0	7.0	700	0.25	10	7.6	91	454
1SMA4741A	741A	11	23.0	8.0	700	0.25	5	8.4	83	414
1SMA4742A	742A	12	21.0	9.0	700	0.25	5	9.1	76	380
1SMA4743A	743A	13	19.0	10	700	0.25	5	9.9	69	344
1SMA4744A	744A	15	17.0	14	700	0.25	5	11.4	61	304
1SMA4745A	745A	16	15.5	16	700	0.25	5	12.2	57	285
1SMA4746A	746A	18	14.0	20	750	0.25	5	13.7	50	250
1SMA4747A	747A	20	12.5	22	750	0.25	5	15.2	45	225
1SMA4748A	748A	22	11.5	23	750	0.25	5	16.7	41	205
1SMA4749A	749A	24	10.5	25	750	0.25	5	18.2	38	190
1SMA4750A	750A	27	9.5	35	750	0.25	5	20.6	34	170
1SMA4751A	751A	30	8.5	40	1000	0.25	5	22.8	30	150
1SMA4752A	752A	33	7.5	45	1000	0.25	5	25.1	27	135
1SMA4753A	753A	36	7.0	50	1000	0.25	5	27.4	25	125
1SMA4754A	754A	39	6.5	60	1000	0.25	5	29.7	23	115
1SMA4755A	755A	43	6.0	70	1500	0.25	5	32.7	22	110
1SMA4756A	756A	47	5.5	80	1500	0.25	5	35.8	19	95
1SMA4757A	757A	51	5.0	95	1500	0.25	5	38.8	18	90
1SMA4758A	758A	56	4.5	110	2000	0.25	5	42.6	16	80
1SMA4759A	759A	62	4.0	125	2000	0.25	5	47.1	14	70
1SMA4760A	760A	68	3.7	150	2000	0.25	5	51.7	13	65
1SMA4761A	761A	75	3.3	175	2000	0.25	5	56.0	12	60
1SMA4762A	762A	82	3.0	200	3000	0.25	5	62.2	11	55
1SMA4763A	763A	91	2.8	250	3000	0.25	5	69.2	10	50
1SMA4764A	764A	100	2.5	350	3000	0.25	5	76.0	9.0	45
SZ1110A	11Z	110	2.3	450	4000	0.25	5	83.6	8.6	40
SZ1120A	12Z	120	2.0	550	4500	0.25	5	91.2	7.8	37
SZ1130A	13Z	130	1.9	700	5000	0.25	5	98.8	7.0	34
SZ1150A	15Z	150	1.7	1000	6000	0.25	5	114.0	6.4	30
SZ1160A	16Z	160	1.6	1100	6500	0.25	5	121.6	5.8	28
SZ1180A	18Z	180	1.4	1200	7000	0.25	5	136.8	5.2	25
SZ1200A	20Z	200	1.2	1900	9990	0.25	5	152.0	4.7	22
SZ1220A	22Z	220	1.0	1600	8000	0.25	5	167.2	4.0	20
SZ1240A	24Z	240	0.9	1800	8500	0.25	5	182.4	3.8	19
SZ1250A	25Z	250	0.9	2000	9000	0.25	5	190.0	3.6	18
SZ1270A	27Z	270	0.8	2100	9000	0.25	5	205.0	3.3	16
SZ1300A	30Z	300	0.8	2300	9500	0.25	5	228.0	3.0	15
SZ1330A	33Z	330	0.7	2500	9500	0.25	5	250.2	2.7	13

Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of ±5%.
2. Measured under thermal equilibrium and DC (I_{ZT}) test conditions.
3. f = 1KHz

Typical Characteristic Curves

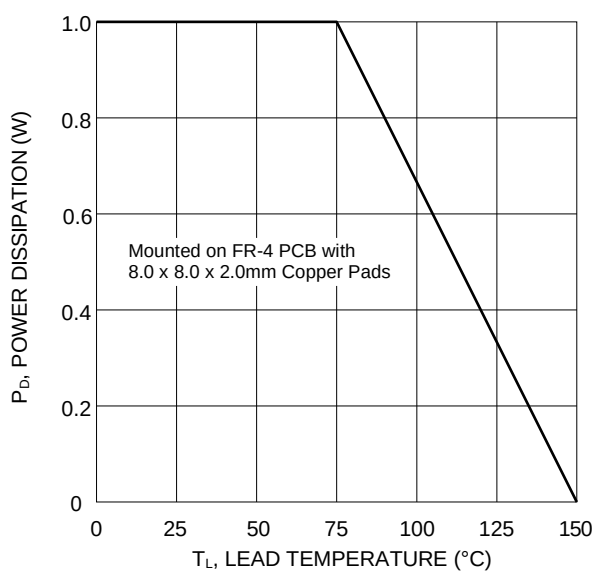


Fig. 1 Power Derating Curve

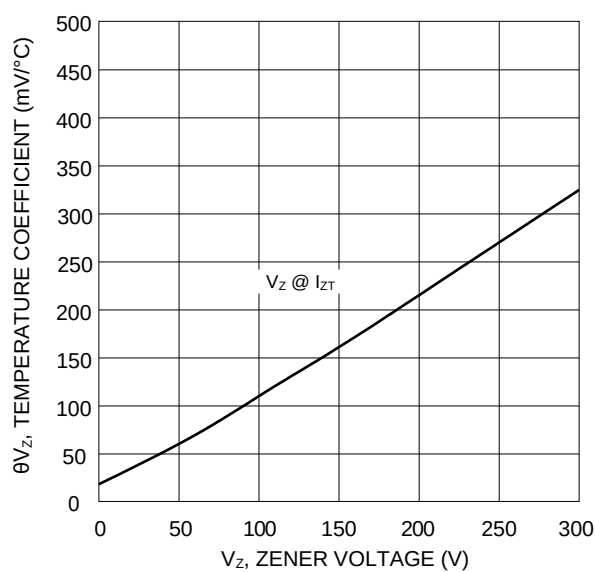


Fig. 2 Typical Temperature Coefficients

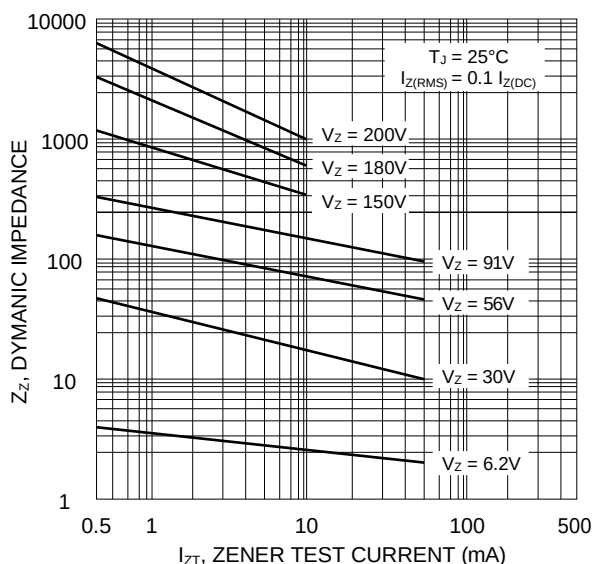


Fig. 3 Dynamic Resistance vs. Zener Current

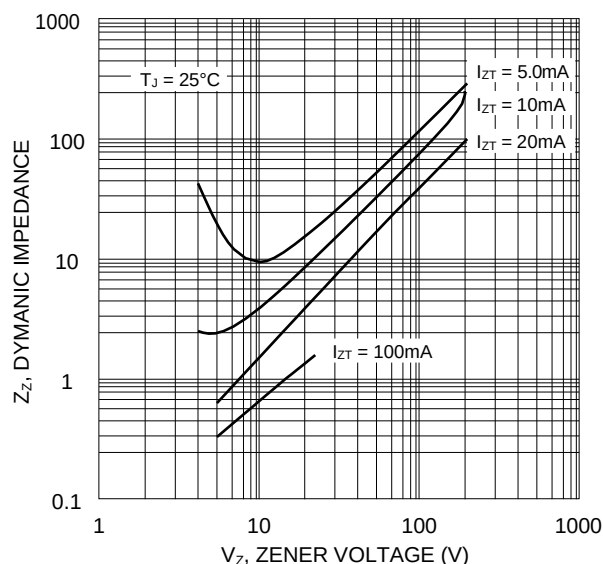


Fig. 3 Dynamic Resistance vs. Zener Voltage

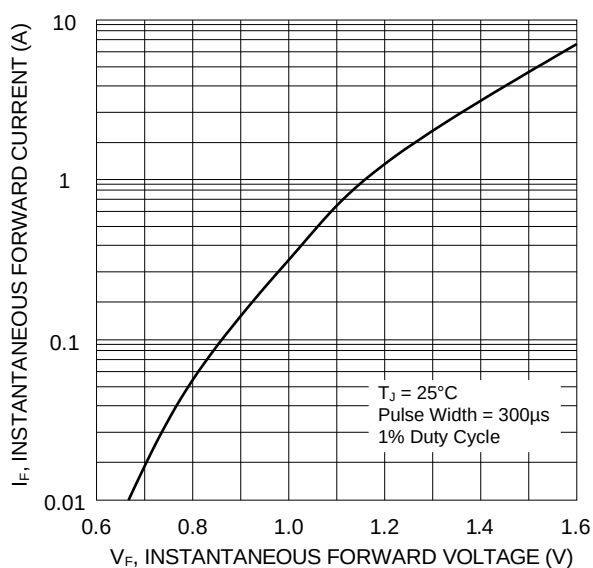


Fig. 5 Typical Forward Characteristics

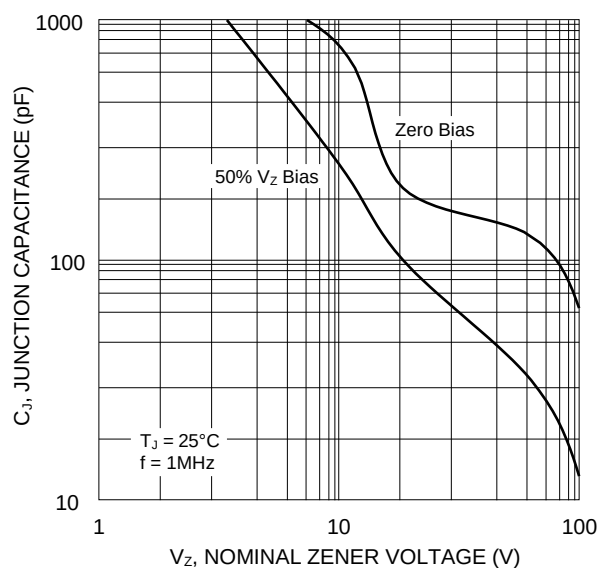


Fig. 6 Junction Capacitance vs. Nominal Zener Voltage