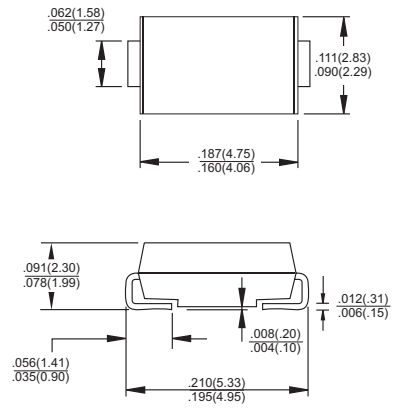
1SMA5926 THRU 1SMA5945

Surface Mount Silicon Zener Diode

Voltage Range
11 to 68 Volts
1.5 Watts Peak Power

SMA/DO-214AC



Dimensions in inches and (millimeters)

Features

- ✧ For surface mounted applications in order to optimize board space
- ✧ Low profile package
- ✧ Built-in strain relief
- ✧ Glass passivated junction
- ✧ Low inductance
- ✧ Typical I_R less than 0.5 μA above 11V
- ✧ High temperature soldering guaranteed: 260^{O}C / 10 seconds at terminals
- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V-0

Mechanical Data

- ✧ Case: Molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: Color Band denotes positive end (cathode)
- ✧ Standard packaging: 12mm tape (EIA-481)
- ✧ Weight: 0.002 ounces, 0.064 gram

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Units
DC Power Dissipation at T_L=75^{O}C, measure at Zero Lead Length (Note 1) Derate above 75 ^{O}C	P_D	1.5 20	Watts mW/ ^{O}C
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 2)	I_{FSM}	10.0	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	^{O}C

Notes: 1. Mounted on 5.0mm^2 (0.013mm thick) land areas.
2. Measured on 8.3ms Single Half Sine-wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minute Maximum.

ELECTRICAL CHARACTERISTICS

(TA=25^{O}C unless otherwise noted) VF=1.5V max, IF=200mA for all types.

Device (Note 1)	Device Marking Code	Nominal Zener Voltage Vz @ Izt Voltage (Notes 2)	Test Current IZT	Zener Impedance			Leakage Current		Maximum DC Zener Current IZM
				ZZT @ IZT	ZZK @ IZK		IR @ VR		
			mA	Ohms	Ohms	mA	uA	Volts	mA (dc)
1SMA5926	926A	11	34.1	5.5	550	0.25	0.5	8.4	136
1SMA5927	927A	12	31.2	6.5	550	0.25	0.5	9.1	125
1SMA5928	928A	13	28.8	7.0	550	0.25	0.5	9.9	115
1SMA5929	929A	15	25.0	9.0	600	0.25	0.5	11.4	100
1SMA5930	930A	16	23.4	10.0	600	0.25	0.5	12.2	94
1SMA5931	931A	18	20.8	12	650	0.25	0.5	13.7	83
1SMA5932	932A	20	18.7	14	650	0.25	0.5	15.2	75
1SMA5933	933A	22	17.0	17.5	650	0.25	0.5	16.7	68
1SMA5934	934A	24	15.6	19	700	0.25	0.5	18.2	63
1SMA5935	935A	27	13.9	23	700	0.25	0.5	20.6	56
1SMA5936	936A	30	12.5	26	750	0.25	0.5	22.8	50
1SMA5937	937A	33	11.4	33	800	0.25	0.5	25.1	45
1SMA5938	938A	36	10.4	38	850	0.25	0.5	27.4	42
1SMA5939	939A	39	9.6	45	900	0.25	0.5	29.7	38
1SMA5940	940A	43	8.7	53	950	0.25	0.5	32.7	35
1SMA5941	941A	47	8.0	67	1000	0.25	0.5	35.8	32
1SMA5942	942A	51	7.3	70	1100	0.25	0.5	38.8	29
1SMA5943	943A	56	6.7	86	1300	0.25	0.5	42.6	27
1SMA5944	944A	62	6.0	100	1500	0.25	0.5	47.1	24
1SMA5945	945A	68	5.5	120.0	1700	0.25	0.5	51.7	22

Notes: 1: Tolerance and Voltage Regulation Designation - the type number listed indicates a tolerance of ±5%.
2: VZ limits are to be guaranteed at thermal equilibrium.

RATINGS AND CHARACTERISTIC CURVES (1SMA5926 THRU 1SMA5945)

FIG.1- STEADY STATE POWER DERATING

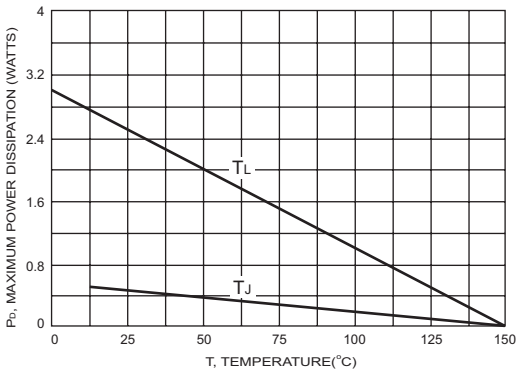


FIG.2- VZ = 12 THRU 68 VOLTS

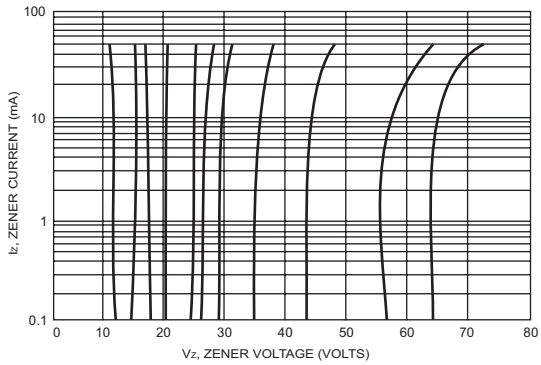


FIG.3- ZENER VOLTAGE - 14 TO 68 VOLTS

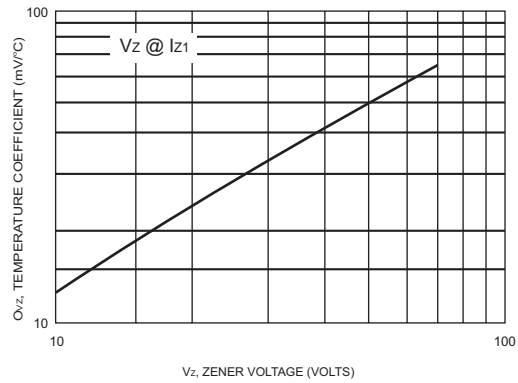


FIG.4- EFFECT OF ZENER VOLTAGE

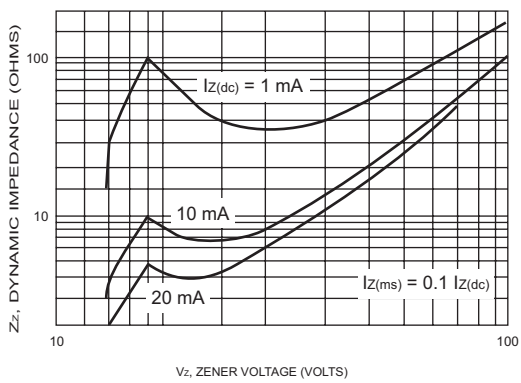


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FIG.5- CAPACITANCE CURVE

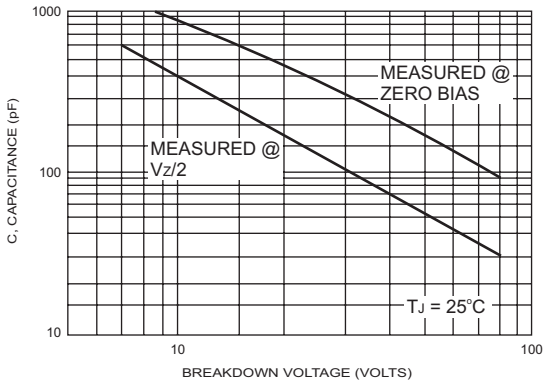

FIG.6- TYPICAL PULSE RATING CURVE

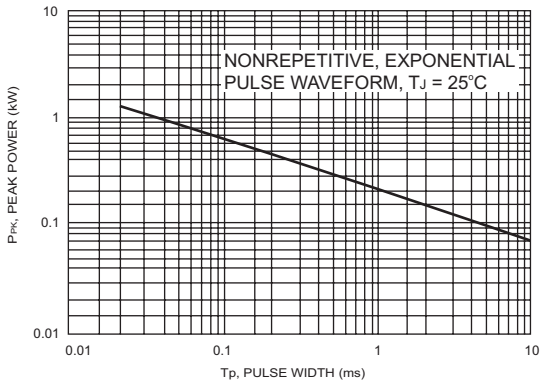

FIG.7- PULSE WAVEFORM

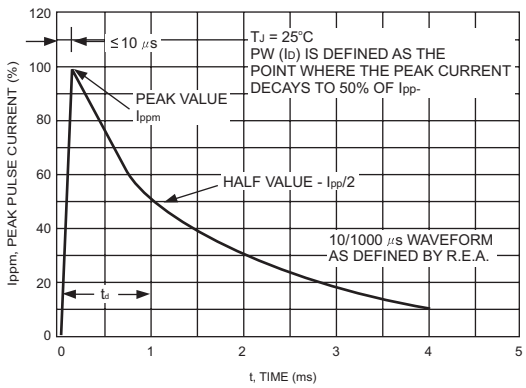

FIG.8- PULSE WAVEFORM