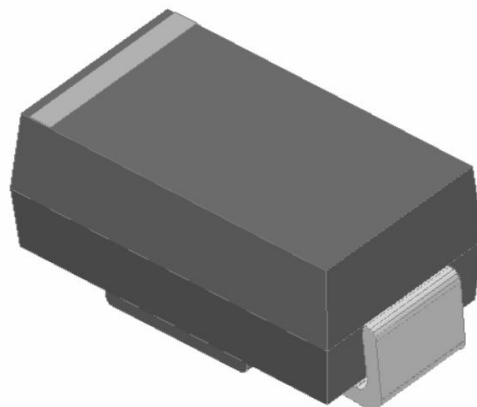


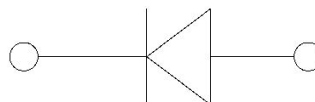
### ■ Features

- Silicon Planar Power Zener Diodes for use in stabilizing and clipping circuits with high power rating. Standard Zener voltage tolerance is 10%. Add suffix A for 5% tolerance. Other tolerances available upon request.



### Mechanical Data

- ◇ Case: Molded plastic over passivated junction
- ◇ Terminals: Pure tin plated lead free, solderable per MIL-STD-750, Method 2025
- ◇ 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°C ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A=50^\circ\text{C}$ , Derate above $50^\circ\text{C}$ (Note 1)	$P_D$	1.0 6.67	Watts mW/°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	°C

- Notes:
1. Mounted on  $5.0\text{mm}^2$  (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

# 1SMA47 SERIES



ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted) VF=1.2V max, IF=200mA for all types.

Device	Device Marking Code	Nominal Zener Voltage Vz @ Izt Voltage	Test Current Izt mA	Maximum Zener Impedance			Leakage Current		Surge Current @ TA = 25°C Ir - mA
				ZZT @ Izt Ohms	ZZK @ IZK		IR @ VR		
					Ohms	mA	uA Max	Volts	
1SMA4733	733A	5.1	49	7	550	1.00	10	1.0	-
1SMA4734	734A	5.6	45	5	600	1.00	10	2.0	-
1SMA4735	735A	6.2	41	2	700	1.00	10	3.0	-
1SMA4736	736A	6.8	37	3.5	700	1.00	10	4.0	-
1SMA4737	737A	7.5	34.0	4	700	0.50	10	5.0	-
1SMA4738	738A	8.2	31.0	4.5	700	0.50	10	6.0	-
1SMA4739	739A	9.1	28.0	5	700	0.50	10	7.0	-
1SMA4740	740A	10	25.0	7	700	0.25	10	7.6	-
1SMA4741	741A	11	23	8	700	0.25	5.0	8.4	414
1SMA4742	742A	12	21	9	700	0.25	5.0	9.1	380
1SMA4743	743A	13	19	10	700	0.25	5.0	9.9	344
1SMA4744	744A	15	17	14	700	0.25	5.0	11.4	304
1SMA4745	745A	16	15.5	16	700	0.25	5.0	12.2	285
1SMA4746	746A	18	14.0	20	750	0.25	5.0	13.7	250
1SMA4747	747A	20	12.5	22	750	0.25	5.0	15.2	225
1SMA4748	748A	22	11.5	23	750	0.25	5.0	16.7	205
1SMA4749	749A	24	10.5	25	750	0.25	5.0	18.2	190
1SMA4750	750A	27	9.5	35	750	0.25	5.0	20.6	170
1SMA4751	751A	30	8.5	40	1000	0.25	5.0	22.8	150
1SMA4752	752A	33	7.5	45	1000	0.25	5.0	25.1	135
1SMA4753	753A	36	7.0	50	1000	0.25	5.0	27.4	125
1SMA4754	754A	39	6.5	60	1000	0.25	5.0	29.7	115
1SMA4755	755A	43	6.0	70	1500	0.25	5.0	32.7	110
1SMA4756	756A	47	5.5	80	1500	0.25	5.0	35.8	95
1SMA4757	757A	51	5.0	95	1500	0.25	5.0	38.8	90
1SMA4758	758A	56	4.5	110	2000	0.25	5.0	42.6	80
1SMA4759	759A	62	4.0	125	2000	0.25	5.0	47.1	70
1SMA4760	760A	68	3.7	150	2000	0.25	5.0	51.7	65
1SMA4761	761A	75	3.3	175	2000	0.25	5.0	56.0	60
1SMA4762	762A	82	3.0	200	3000	0.25	5.0	62.2	55
1SMA4763	763A	91	2.8	250	3000	0.25	5.0	69.2	50
1SMA4764	764A	100	2.5	350	3000	0.25	5.0	76.0	45
1SMA110Z	110A	110	2.3	450	4000	0.25	5.0	83.6	-
1SMA120Z	120A	120	2.0	550	4500	0.25	5.0	91.2	-
1SMA130Z	130A	130	1.9	700	5000	0.25	5.0	98.8	-
1SMA150Z	150A	150	1.7	1000	6000	0.25	5.0	114.0	-
1SMA160Z	160A	160	1.6	1100	6500	0.25	5.0	121.6	-
1SMA180Z	180A	180	1.4	1200	7000	0.25	5.0	136.8	-
1SMA200Z	200A	200	1.2	1500	8000	0.25	5.0	152.0	-

## RATINGS AND CHARACTERISTIC CURVES (1SMA4733THRU 1SMA200Z)

FIG.1- POWER TEMPERATURE DERATING CURVE

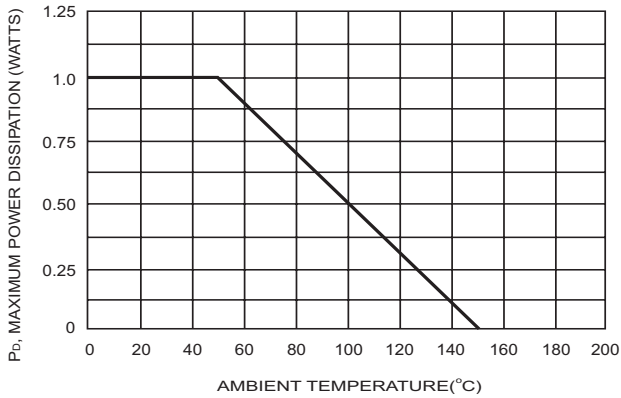


FIG.2- TYPICAL FORWARD CHARACTERISTICS

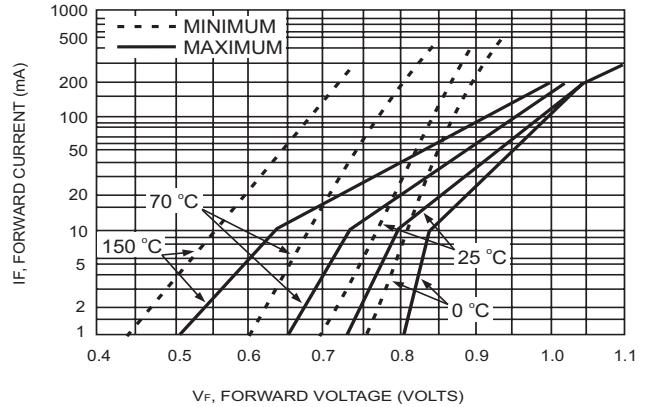


FIG.3- EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

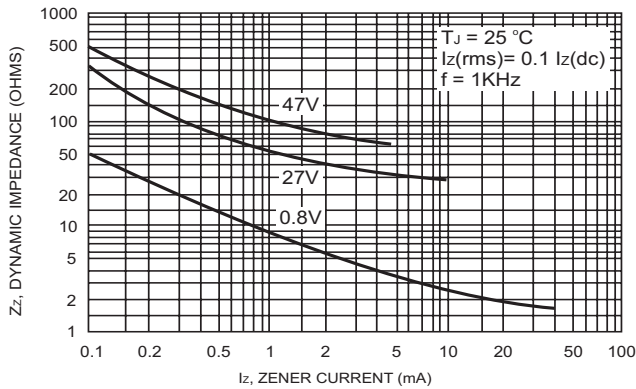


FIG.5- TYPICAL LEAKAGE CURRENT

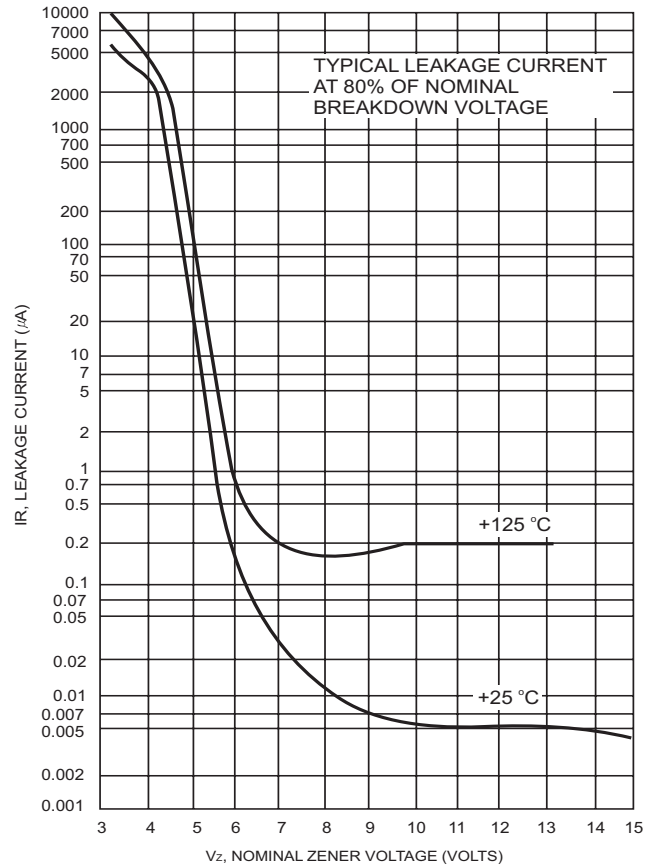


FIG.4- EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

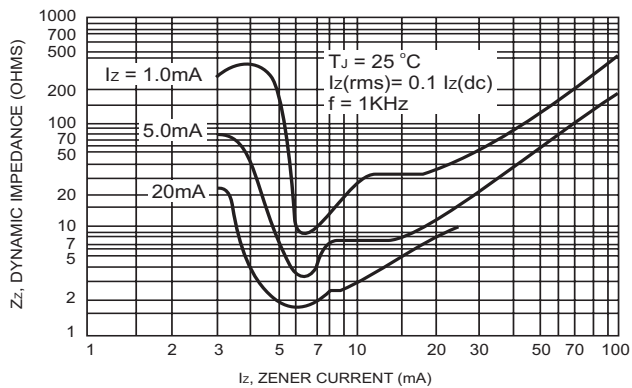


FIG.6- TYPICAL CAPACITANCE versus Vz

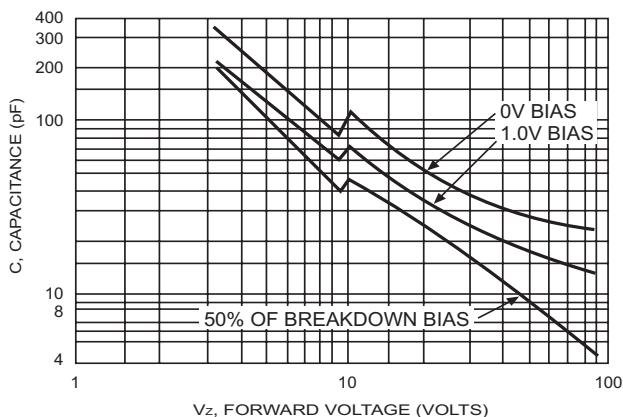
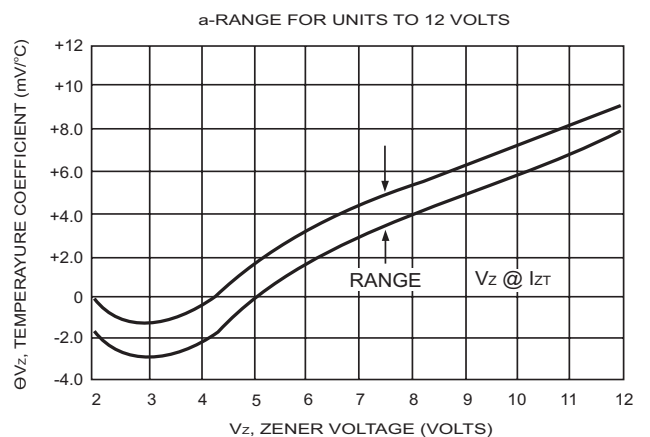


FIG.7- TEMPERATURE COEFFICIENTS



## RATINGS AND CHARACTERISTIC CURVES (1SMA4733 THRU 1SMA200Z)

FIG.8- TEMPERATURE COEFFICIENTS

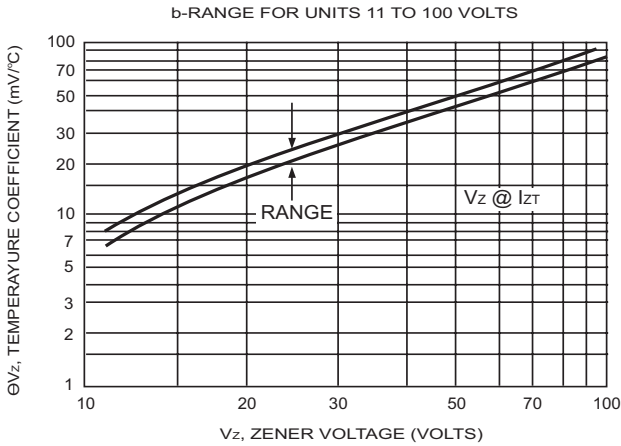


FIG.9- EFFECT OF ZENER CURRENT

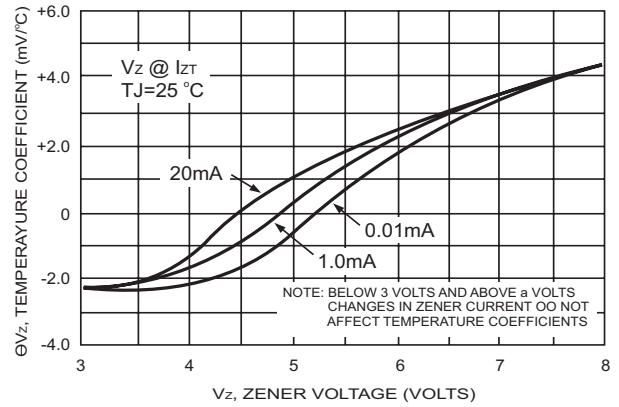
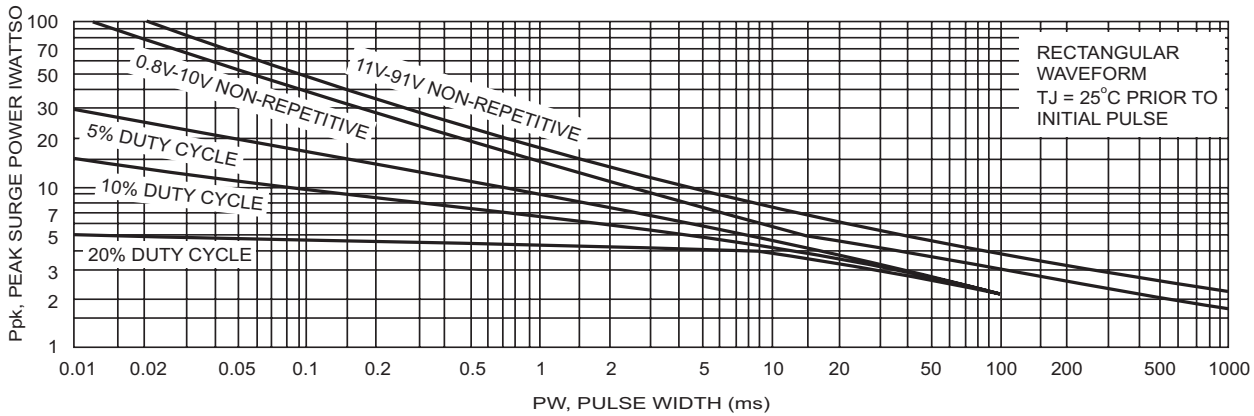


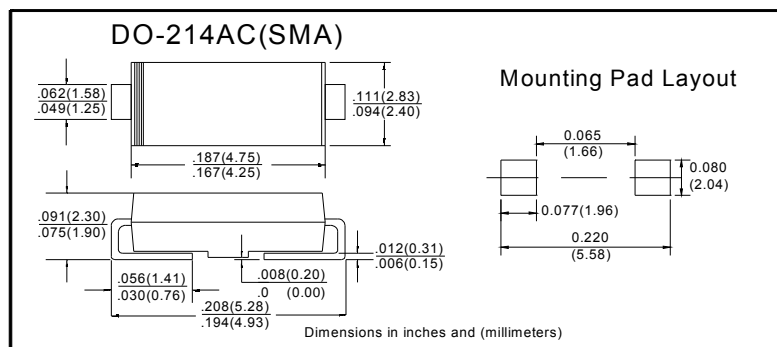
FIG.10- MAXIMUM SURGE POWER



### Ordering Information (Example)

PREFERRED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
1SMA47 series	SMA	5000	10000	80000	13" reel

### Outline Dimensions



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