



## FEATURE

- ◆ 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  $5.0 \mu A$  above 11V
- ◆ High temperature soldering guaranteed:  
260°C / 10 seconds at terminals
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0

## MECHANICAL DATA

**Case:** Molded plastic over passivated junction

**Terminals:** Plated leads, solderable per MIL-STD 750, method 2025

**Polarity:** Color band denotes cathode end

**Standard packaging:** 12mm tape (EIA-481)

**Weight:** 0.002 ounce, 0.07 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MDD Catalog Number	SYMBOLS	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/ $^\circ\text{C}$
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	$^\circ\text{C}$

- 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.

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

Part Number	V <sub>Z</sub> @ I <sub>ZT</sub>			Maximum Zener Impedance				Maximum Leakage Current		Package
				Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
1.0 Watt ZENER Diodes -- continued										
1SMA4728A	3.3	3.1	3.5	10.0	76.0	400	1.00	100	1.0	SMA
1SMA4729A	3.6	3.4	3.8	10.0	69.0	400	1.00	100	1.0	SMA
1SMA4730A	3.9	3.7	4.1	9.0	64.0	400	1.00	50	1.0	SMA
1SMA4731A	4.3	4.1	4.5	9.0	58.0	400	1.00	10	1.0	SMA
1SMA4732A	4.7	4.5	4.9	8.0	53.0	500	1.00	10	1.0	SMA
1SMA4733A	5.1	4.8	5.4	7.0	49.0	550	1.00	10	1.0	SMA
1SMA4734A	5.6	5.3	5.9	5.0	45.0	600	1.00	10	2.0	SMA
1SMA4735A	6.2	5.9	6.5	2.0	41.0	700	1.00	10	3.0	SMA
1SMA4736A	6.8	6.5	7.1	3.5	37.0	700	1.00	10	4.0	SMA
1SMA4737A	7.5	7.1	7.9	4.0	34.0	700	0.50	10	5.0	SMA
1SMA4738A	8.2	7.8	8.6	4.5	31.0	700	0.50	10	6.0	SMA
1SAM4739A	9.1	8.6	9.6	5.0	28.0	700	0.50	10	7.0	SMA
1SMA4740A	10.0	9.5	10.5	7.0	25.0	700	0.25	10	7.6	SMA
1SMA4741A	11.0	10.5	11.6	8.0	23.0	700	0.25	5.0	8.4	SMA
1SMA4742A	12.0	11.4	12.6	9.0	21.0	700	0.25	5.0	9.1	SMA
1SMA4743A	13.0	12.4	13.7	10.0	19.0	700	0.25	5.0	9.9	SMA
1SMA4744A	15.0	14.3	15.8	14.0	17.0	700	0.25	5.0	11.4	SMA
1SMA4745A	16.0	15.2	16.8	16.0	15.5	700	0.25	5.0	12.2	SMA
1SMA4746A	18.0	17.1	18.9	20.0	14.0	750	0.25	5.0	13.7	SMA
1SMA4747A	20.0	19.0	21.0	22.0	12.5	750	0.25	5.0	15.2	SMA
1SMA4748A	22.0	20.9	23.1	23.0	11.5	750	0.25	5.0	16.7	SMA
1SMA4749A	24.0	22.8	25.2	25.0	10.5	750	0.25	5.0	18.2	SMA
1SMA4750A	27.0	25.7	28.4	35.0	9.5	750	0.25	5.0	20.6	SMA
1SMA4751A	30.0	28.5	31.5	40.0	8.5	1000	0.25	5.0	22.8	SMA
1SMA4752A	33.0	31.4	34.7	45.0	7.5	1000	0.25	5.0	25.1	SMA
1SMA4753A	36.0	34.2	37.8	50.0	7.0	1000	0.25	5.0	27.4	SMA
1SMA4754A	39.0	37.1	41	60.0	6.5	1000	0.25	5.0	29.7	SMA
1SMA4755A	43.0	40.9	45.2	70.0	6.0	1500	0.25	5.0	32.7	SMA
1SMA4756A	47.0	44.7	49.4	80.0	5.5	1500	0.25	5.0	35.8	SMA
1SMA4757A	51.0	48.5	53.6	95.0	5.0	1500	0.25	5.0	38.8	SMA
1SMA4758A	56.0	53.2	58.8	110	4.5	2000	0.25	5.0	42.6	SMA
1SMA4759A	62.0	58.9	65.1	125	4.0	2000	0.25	5.0	47.1	SMA
1SMA4760A	68.0	64.6	71.4	150	3.7	2000	0.25	5.0	51.7	SMA
1SMA4761A	75.0	71.3	78.8	175	3.3	2000	0.25	5.0	56.0	SMA
1SMA4762A	82.0	77.9	86.1	200	3.0	3000	0.25	5.0	62.2	SMA
1SMA4763A	91.0	86.5	95.6	250	2.8	3000	0.25	5.0	69.2	SMA
1SMA4764A	100	95.0	105	350	2.5	3000	0.25	5.0	76.0	SMA
1SMA110A	110	104.5	115.5	450	2.3	4000	0.25	5.0	83.6	SMA
1SMA120A	120	114	126	550	2.0	4500	0.25	5.0	91.2	SMA
1SMA130A	130	123.5	136.5	700	1.9	5000	0.25	5.0	98.8	SMA
1SMA150A	150	142.5	157.5	1000	1.7	6000	0.25	5.0	114.0	SMA
1SMA160A	160	152	168	1100	1.6	6500	0.25	5.0	121.6	SMA
1SMA180A	180	171	189	1200	1.4	7000	0.25	5.0	136.8	SMA
1SMA200A	200	190	210	1500	1.2	8000	0.25	5.0	152.0	SMA

**Notes :**

- (1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5%.
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I<sub>ZT</sub> per JEDEC Method

### RATINGS AND CHARACTERISTIC CURVES( 1SMA4728 THRU 1SMA200A)

FIG.1- POWER TEMPERATURE DERATING CURVE

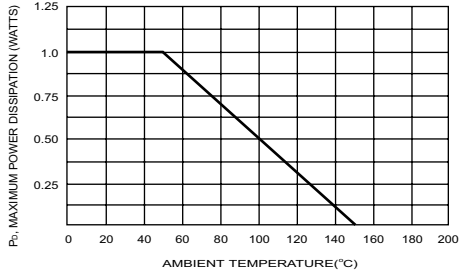


FIG.2- TYPICAL FORWARD CHARACTERISTICS

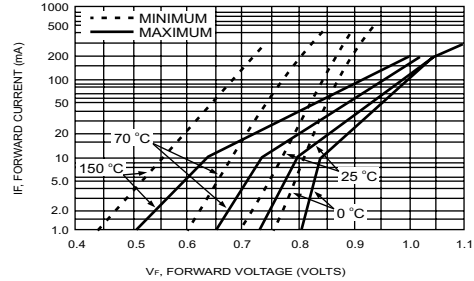


FIG.3- EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

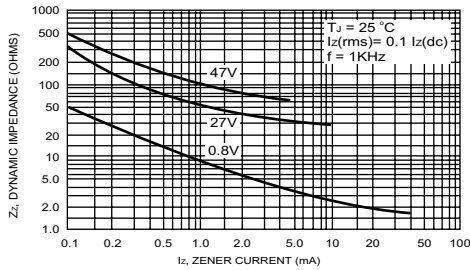


FIG.5- TYPICAL LEAKAGE CURRENT

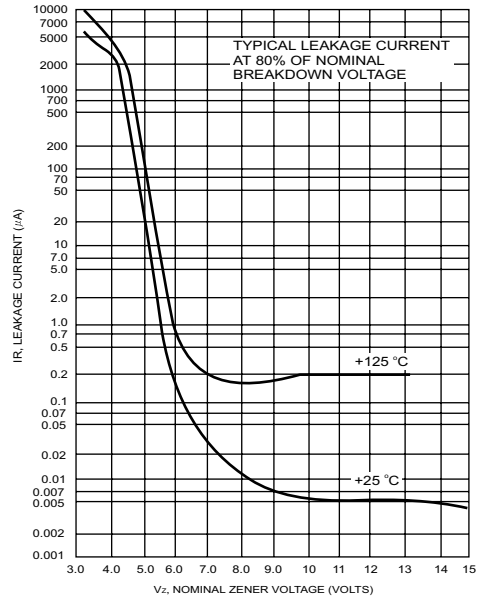


FIG.4- EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

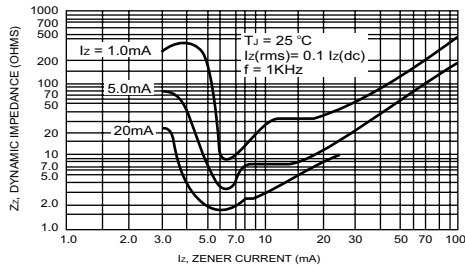


FIG.6- TYPICAL CAPACITANCE versus Vz

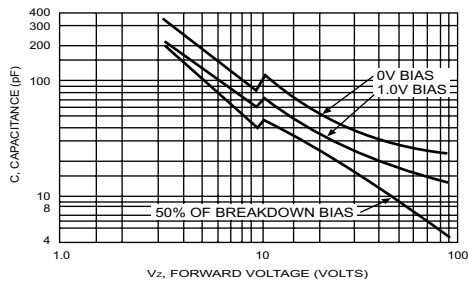
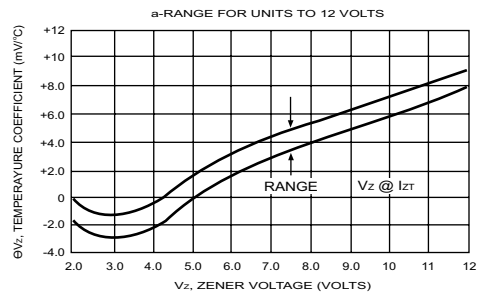


FIG.7- TEMPERATURE COEFFICIENTS



## RATINGS AND CHARACTERISTIC CURVES( 1SMA4728 THRU 1SMA200A)

FIG.7- TEMPERATURE COEFFICIENTS

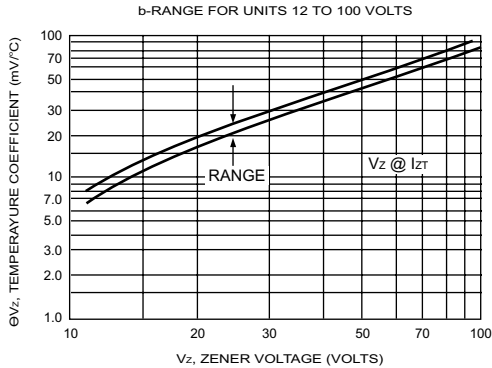


FIG.8- EFFECT OF ZENER CURRENT

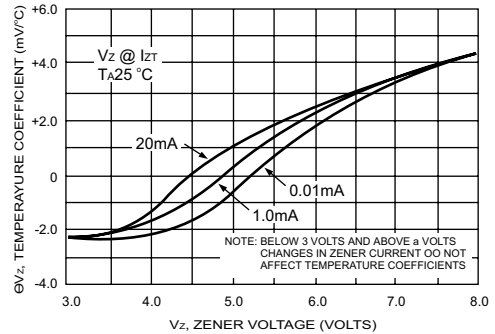
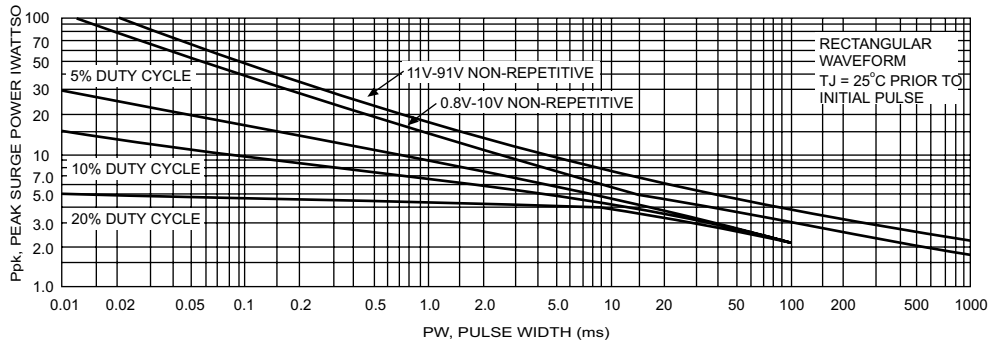


FIG.9- MAXIMUM SURGE POWER



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00

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