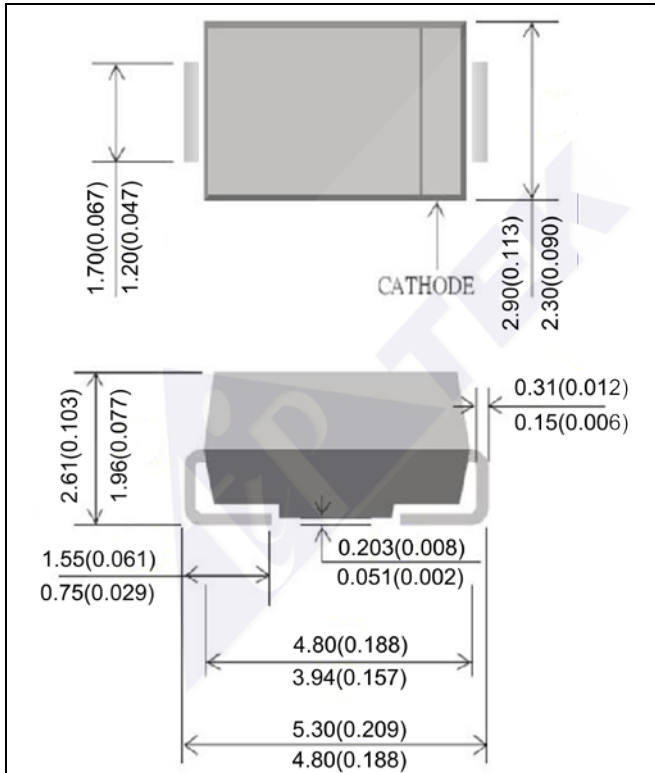


## 1W SURFACE MOUNT SILICON ZENER DIODE



CASE : DO-214AC(SMA)

DIMENSIONS IN MILLIMETERS AND (INCHES)

### FEATURES

- LOW PROFILE PACKAGE
- BUILT-IN STRAIN RELIEF
- LOW INDUCTANCE
- HIGH TEMPERATURE SOLDERING:260°C/10 SECONDS AT TERMINALS
- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0

### MECHANICAL DATA

- CASE : MOLDED PLASTIC
- TERMINALS : SOLDER PLATED
- POLARITY : INDICATED BY CATHODE BAND
- WEIGHT : 0.066GRAMS
- Pb Free: 1SMA4728 ~ ZS330A  
Halogen Free: 1SMA4728-H ~ ZS330A-H

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED			
PARAMETER	SYMBOL	VALUE	UNITS
MAXIMUM POWER DISSIPATION	$P_D$	1	W
JUNCTION TEMPERATURE	$T_J$	-55 TO +150	°C
STORAGE TEMPERATURE RANGE	$T_{STG}$	-55 TO +150	°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS
MAXIMUM THERMAL RESISTANCE JUNCTION TO AMBIENT AIR(NOTE 2)	$R_{\theta JA}$	-	-	170	K/W
MAXIMUM FORWARD VOLAGE AT $I_F=200mA$	$V_F$	-	-	1.2	V

NOTE: 2. VALID PROVIDED THAT LEADS ARE KEPT AT AMBIENT TEMPERATURE AT A DISTANCE OF 10mm FROM CASE.

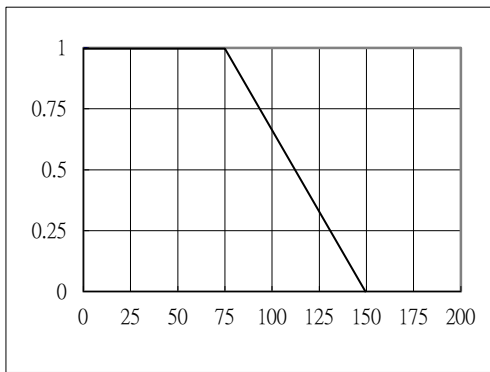
Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>	
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
1SMA4728	3.30	3.14	3.47	10.0	76.0	400.0	1.00	100	1.0
1SMA4729	3.60	3.42	3.78	10.0	69.0	400.0	1.00	100	1.0
1SMA4730	3.90	3.70	4.10	9.0	64.0	400.0	1.00	50.0	1.0
1SMA4731	4.30	4.08	4.52	9.0	58.0	400.0	1.00	10.0	1.0
1SMA4732	4.70	4.46	4.94	8.0	53.0	500.0	1.00	10.0	1.0
1SMA4733	5.10	4.84	5.36	7.0	49.0	550.0	1.00	10.0	1.0
1SMA4734	5.60	5.32	5.88	5.0	45.0	600.0	1.00	10.0	2.0
1SMA4735	6.20	5.89	6.51	2.0	41.0	700.0	1.00	10.0	3.0
1SMA4736	6.80	6.46	7.14	3.5	37.0	700.0	1.00	5.0	4.0
1SMA4737	7.50	7.13	7.88	4.0	34.0	700.0	0.50	5.0	5.0
1SMA4738	8.20	7.79	8.61	4.5	31.0	700.0	0.50	5.0	6.0
1SMA4739	9.10	8.65	9.56	5.0	28.0	700.0	0.50	0.5	7.0
1SMA4740	10.00	9.50	10.50	7.0	25.0	700.0	0.25	0.5	7.6
1SMA4741	11.00	10.45	11.55	8.0	23.0	700.0	0.25	0.1	8.4
1SMA4742	12.00	11.40	12.60	9.0	21.0	700.0	0.25	0.1	9.1
1SMA4743	13.00	12.35	13.65	10.0	19.0	700.0	0.25	0.1	9.9
1SMA4744	15.00	14.25	15.75	14.0	17.0	700.0	0.25	0.1	11.4
1SMA4745	16.00	15.20	16.80	16.0	15.5	700.0	0.25	0.1	12.2
1SMA4746	18.00	17.10	18.90	20.0	14.0	750.0	0.25	0.1	13.7
1SMA4747	20.00	19.00	21.00	22.0	12.5	750.0	0.25	0.1	15.2
1SMA4748	22.00	20.90	23.10	23.0	11.5	750.0	0.25	0.1	16.7
1SMA4749	24.00	22.80	25.20	25.0	10.5	750.0	0.25	0.1	18.2
1SMA4750	27.00	25.65	28.35	35.0	9.5	750.0	0.25	0.1	20.6
1SMA4751	30.00	28.50	31.50	40.0	8.5	1000.0	0.25	0.1	22.8
1SMA4752	33.00	31.35	34.65	45.0	7.5	1000.0	0.25	0.1	25.1
1SMA4753	36.00	34.20	37.80	50.0	7.0	1000.0	0.25	0.1	27.4
1SMA4754	39.00	37.05	40.95	60.0	6.5	1000.0	0.25	0.1	29.7
1SMA4755	43.00	40.85	45.15	70.0	6.0	1500.0	0.25	0.1	32.7
1SMA4756	47.00	44.65	49.35	80.0	5.5	1500.0	0.25	0.1	35.8
1SMA4757	51.00	48.45	53.55	95.0	5.0	1500.0	0.25	0.1	38.8

NOTES: THE TYPE NUMBER LISTED HAVE A STANDARD TOLERANCE ON THE NOMINAL ZENER VOLTAGE OF ±5%.

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
	$V_Z @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Nom. V	Min. V	Max. V	$\Omega$	mA	$\Omega$	mA	$\mu A$	V
1SMA4758	56.00	53.20	58.80	110.0	4.5	2000.0	0.25	0.1	42.6
1SMA4759	62.00	58.90	65.10	125.0	4.0	2000.0	0.25	0.1	47.1
1SMA4760	68.00	64.60	71.40	150.0	3.7	2000.0	0.25	0.1	51.7
1SMA4761	75.00	71.25	78.75	175.0	3.3	2000.0	0.25	0.1	56.0
1SMA4762	82.00	77.90	86.10	200.0	3.0	3000.0	0.25	0.1	62.2
1SMA4763	91.00	86.45	95.55	250.0	2.8	3000.0	0.25	0.1	69.2
1SMA4764	100.00	95.00	105.00	350.0	2.5	3000.0	0.25	0.1	76.0
ZS110A	110.00	104.50	115.50	450.0	2.3	4000.0	0.25	0.1	83.6
ZS120A	120.00	114.00	126.00	550.0	2.0	4500.0	0.25	0.1	91.2
ZS130A	130.00	123.50	136.50	700.0	1.9	5000.0	0.25	0.1	98.8
ZS150A	150.00	142.50	157.50	1000.0	1.7	6000.0	0.25	0.1	114.0
ZS160A	160.00	152.00	168.00	1100.0	1.6	6500.0	0.25	0.1	121.6
ZS180A	180.00	171.00	189.00	1200.0	1.4	7000.0	0.25	0.1	136.8
ZS200A	200.00	190.00	210.00	1900.0	1.2	9990.0	0.25	0.1	152.0
ZS220A	220.00	209.00	231.00	1600.0	1.0	8000.0	0.25	0.1	167.2
ZS240A	240.00	228.00	252.00	1800.0	0.9	8500.0	0.25	0.1	182.4
ZS250A	250.00	237.50	262.50	2000.0	0.9	9000.0	0.25	0.1	190.0
ZS270A	270.00	256.50	283.50	2100.0	0.8	9000.0	0.25	0.1	205.0
ZS300A	300.00	285.00	315.00	2300.0	0.8	9500.0	0.25	0.1	228.0
ZS330A	330.00	313.50	346.50	2500.0	0.7	9500.0	0.25	0.1	250.2

NOTES: THE TYPE NUMBER LISTED HAVE A STANDARD TOLERANCE ON THE NOMINAL ZENER VOLTAGE OF  $\pm 5\%$ .

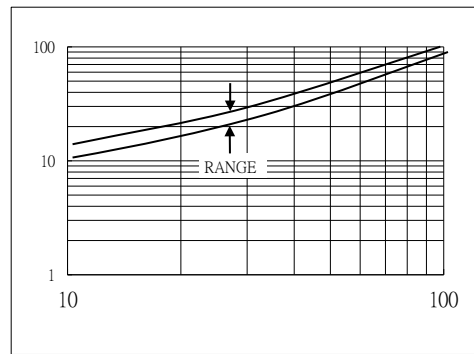
PD, MAXIMUM POWER DISSIPATION (WATTS)



T<sub>L</sub>, LEAD TEMPERATURE, °C

**Fig.1-POWER TEMPERATURE DERATING CURVE**

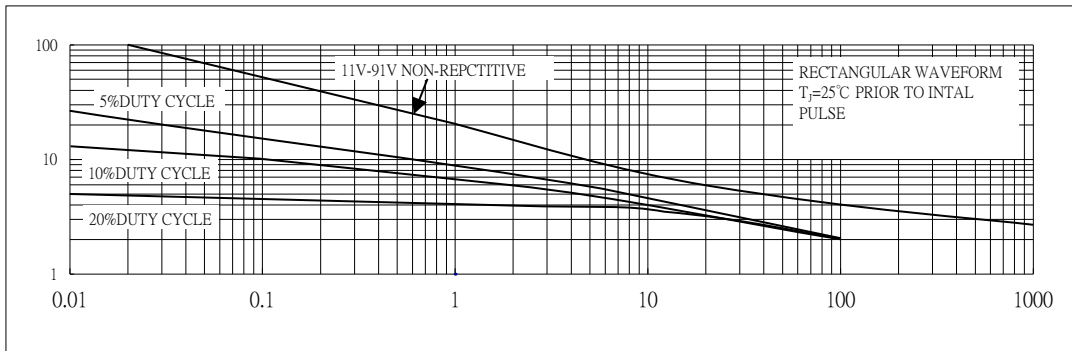
$\theta_{Vz}$ , TEMPERATURE COEFFICIENT (mV/°C)



V<sub>Z</sub>, ZENER VOLTAGE (VOLTS)

**Fig.2-TEMPERATURE COEFFICIENTS V.S. ZENER VOLTAGE**

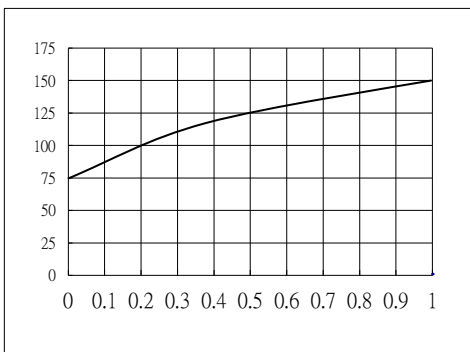
P<sub>PK</sub>, PEAK SURGE POWER (WATTS)



P<sub>W</sub>, PULSE WIDTH (ms)

**Fig.3-MAXIMUM SURGE POWER**

$\theta_{JL}$ , JUNCTION TO LEAD THERMAL RESISTANCE (°C/W)



L, LEAD LENGTH TO HEATSINK (INCHES)

**Fig.4-TYPICAL THERMAL RESISTANCE V.S. LEAD LENGTH**