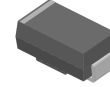


**Features**

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

**SMA/DO-214AC**

**Mechanical Data**

- **Package:** DO-214AC (SMA)  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

**■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)**

PARAMETER	SYMBOL	UNIT	MAX
DC power dissipation at TL = 75 °C	P <sub>D</sub>	W	1
Maximum instantaneous forward voltage@ I <sub>F</sub> =200mA	V <sub>F</sub>	V	1.2
Maximum junction temperature	T <sub>j</sub>	°C	-55 to +150
Storage temperature range	T <sub>stg</sub>	°C	-55 to +150

**■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)**

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal resistance(Typical)	R <sub>θJ-L</sub> <sup>(1)</sup>	°C/W	junction to lead	30
	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	junction to ambient	170

Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

**■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)**

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum Surge Current	Maximum DC Zener Current
	Min V <sub>Z</sub> <sup>(1)</sup> at I <sub>ZT</sub>	Typ. V <sub>Z</sub> <sup>(1)</sup> at I <sub>ZT</sub>	Max V <sub>Z</sub> <sup>(1)</sup> at I <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub> at I <sub>ZT</sub>	Z <sub>ZK</sub> at I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	Test voltage V <sub>R</sub>	I <sub>RM</sub> <sup>(2)</sup>	I <sub>ZM</sub>
	V	V	V	mA	Ω	Ω	mA	μA	V	mA	mA
1SMA4727A	2.85	3.0	3.15	80.0	10.0	400	1.00	100.0	1.0	1485	288.0
1SMA4728A	3.14	3.3	3.47	76.0	10.0	400	1.00	100.0	1.0	1370	274.0
1SMA4729A	3.42	3.6	3.78	69.0	10.0	400	1.00	100.0	1.0	1255	251.0
1SMA4730A	3.71	3.9	4.10	64.0	9.0	400	1.00	50.0	1.0	1160	232.0
1SMA4731A	4.09	4.3	4.52	58.0	9.0	400	1.00	10.0	1.0	1050	210.0
1SMA4732A	4.47	4.7	4.94	53.0	8.0	500	1.00	10.0	1.0	960	192.0

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum Surge Current	Maximum DC Zener Current
	Min $V_Z^{(1)}$ at $I_{ZT}$	Typ. $V_Z^{(1)}$ at $I_{ZT}$	Max $V_Z^{(1)}$ at $I_{ZT}$		$Z_{ZT}$ at $I_{ZT}$	$Z_{ZK}$ at $I_{ZK}$	$I_{ZK}$	$I_R$	Test voltage $V_R$		
	V	V	V	mA	$\Omega$	$\Omega$	mA	$\mu A$	V	mA	mA
1SMA4733A	4.85	5.1	5.36	49.0	7.0	550	1.00	10.0	1.0	885	177.0
1SMA4734A	5.32	5.6	5.88	45.0	5.0	600	1.00	10.0	2.0	805	161.0
1SMA4735A	5.89	6.2	6.51	41.0	2.0	700	1.00	10.0	3.0	730	146.0
1SMA4736A	6.46	6.8	7.14	37.0	3.5	700	1.00	10.0	4.0	660	133.0
1SMA4737A	7.13	7.5	7.88	34.0	4.0	700	0.50	10.0	5.0	605	121.0
1SMA4738A	7.79	8.2	8.61	31.0	4.5	700	0.50	10.0	6.0	550	110.0
1SMA4739A	8.65	9.1	9.56	28.0	5.0	700	0.50	10.0	7.0	500	100.0
1SMA4740A	9.50	10.0	10.50	25.0	7.0	700	0.25	10.0	7.6	454	91.0
1SMA4741A	10.45	11.0	11.55	23.0	8.0	700	0.25	5.0	8.4	414	83.0
1SMA4742A	11.40	12.0	12.60	21.0	9.0	700	0.25	5.0	9.1	380	76.0
1SMA4743A	12.35	13.0	13.65	19.0	10.0	700	0.25	5.0	9.9	344	69.0
1SMA4744A	14.25	15.0	15.75	17.0	14.0	700	0.25	5.0	11.4	304	61.0
1SMA4745A	15.20	16.0	16.80	15.5	16.0	700	0.25	5.0	12.2	285	57.0
1SMA4746A	17.10	18.0	18.90	14.0	20.0	750	0.25	5.0	13.7	250	50.0
1SMA4747A	19.00	20.0	21.00	12.5	22.0	750	0.25	5.0	15.2	225	45.0
1SMA4748A	20.90	22.0	23.10	11.5	23.0	750	0.25	5.0	16.7	205	41.0
1SMA4749A	22.80	24.0	25.20	10.5	25.0	750	0.25	5.0	18.2	190	38.0
1SMA4750A	25.65	27.0	28.35	9.5	35.0	750	0.25	5.0	20.6	170	34.0
1SMA4751A	28.50	30.0	31.50	8.5	40.0	1000	0.25	5.0	22.8	150	30.0
1SMA4752A	31.35	33.0	34.65	7.5	45.0	1000	0.25	5.0	25.1	135	27.0
1SMA4753A	34.20	36.0	37.80	7.0	50.0	1000	0.25	5.0	27.4	125	25.0
1SMA4754A	37.05	39.0	40.95	6.5	60.0	1000	0.25	5.0	29.7	115	23.0
1SMA4755A	40.85	43.0	45.15	6.0	70.0	1500	0.25	5.0	32.7	110	22.0
1SMA4756A	44.65	47.0	49.35	5.5	80.0	1500	0.25	5.0	35.8	95	19.0
1SMA4757A	48.45	51.0	53.55	5.0	95.0	1500	0.25	5.0	38.8	90	18.0
1SMA4758A	53.20	56.0	58.80	4.5	110.0	2000	0.25	5.0	42.6	80	16.0
1SMA4759A	58.90	62.0	65.10	4.0	125.0	2000	0.25	5.0	47.1	70	14.0
1SMA4760A	64.60	68.0	71.40	3.7	150.0	2000	0.25	5.0	51.7	65	13.0
1SMA4761A	71.25	75.0	78.75	3.3	175.0	2000	0.25	5.0	56.0	60	12.0
1SMA4762A	77.90	82.0	86.10	3.0	200.0	3000	0.25	5.0	62.2	55	11.0
1SMA4763A	86.45	91.0	95.55	2.8	250.0	3000	0.25	5.0	69.2	50	10.0
1SMA4764A	95.00	100.0	105.00	2.5	350.0	3000	0.25	5.0	76.0	45	9.0
1SZ1110A	104.50	110.0	115.50	2.3	450.0	4000	0.25	5.0	83.6	40	8.6
1SZ1120A	114.00	120.0	126.00	2.0	550.0	4500	0.25	5.0	91.2	37	7.8
1SZ1130A	123.50	130.0	136.50	1.9	700.0	5000	0.25	5.0	98.8	34	7.0

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum Surge Current	Maximum DC Zener Current
	Min $V_Z^{(1)}$ at $I_{ZT}$	Typ. $V_Z^{(1)}$ at $I_{ZT}$	Max $V_Z^{(1)}$ at $I_{ZT}$	$I_{ZT}$	$Z_{ZT}$ at $I_{ZT}$	$Z_{ZK}$ at $I_{ZK}$	$I_{ZK}$	$I_R$	Test voltage $V_R$	$I_{RM}^{(2)}$	$I_{ZM}$
	V	V	V	mA	$\Omega$	$\Omega$	mA	$\mu A$	V	mA	mA
1SZ1150A	142.50	150.0	157.50	1.7	1000.0	6000	0.25	5.0	114.0	30	6.4
1SZ1160A	152.00	160.0	168.00	1.6	1100.0	6500	0.25	5.0	121.6	28	5.8
1SZ1180A	171.00	180.0	189.00	1.4	1200.0	7000	0.25	5.0	136.8	25	5.2
1SZ1200A	190.00	200.0	210.00	1.2	1900.0	9990	0.25	5.0	152.0	22	4.7
1SZ1220A	209.00	220.0	231.00	1.0	1600.0	8000	0.25	5.0	167.2	20	4.0
1SZ1240A	228.00	240.0	252.00	0.9	1800.0	8500	0.25	5.0	182.4	19	3.8
1SZ1250A	237.50	250.0	262.50	0.9	2000.0	9000	0.25	5.0	190.0	18	3.6
1SZ1270A	256.50	270.0	283.50	0.8	2100.0	9000	0.25	5.0	205.0	16	3.3
1SZ1300A	285.00	300.0	315.00	0.8	2300.0	9500	0.25	5.0	228.0	15	3.0
1SZ1330A	313.50	330.0	346.50	0.7	2500.0	9500	0.25	5.0	250.2	13	2.7
1SZ1360A	342.00	360.0	378.00	0.7	2700.0	10000	0.25	5.0	275.0	12	2.5
1SZ1390A	370.50	390.0	409.50	0.7	3000.0	10000	0.25	5.0	300.0	11	2.2

Notes:

- (1) Nominal Zener voltage Range: 95% Typ. $V_Z$  (1)at  $I_{ZT}$ ----105% Typ. $V_Z$  (1)at  $I_{ZT}$
- (2) Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on  $I_{ZT}$  per JEDEC method

## ■ Characteristics (Typical)

FIG1: Power Temperature Derating Curve

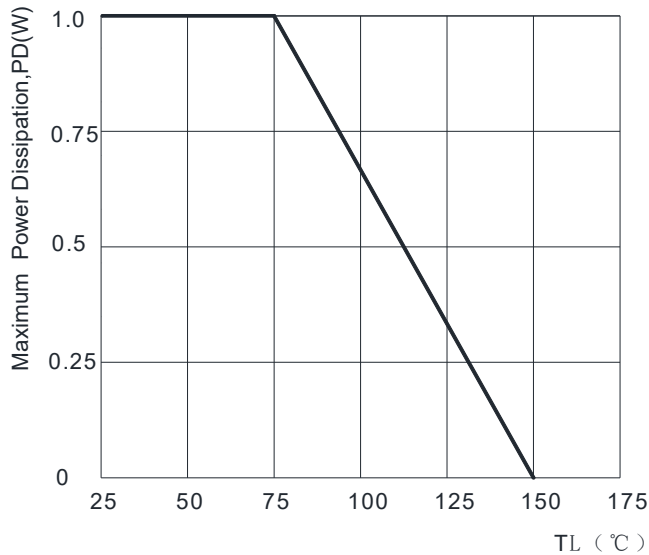
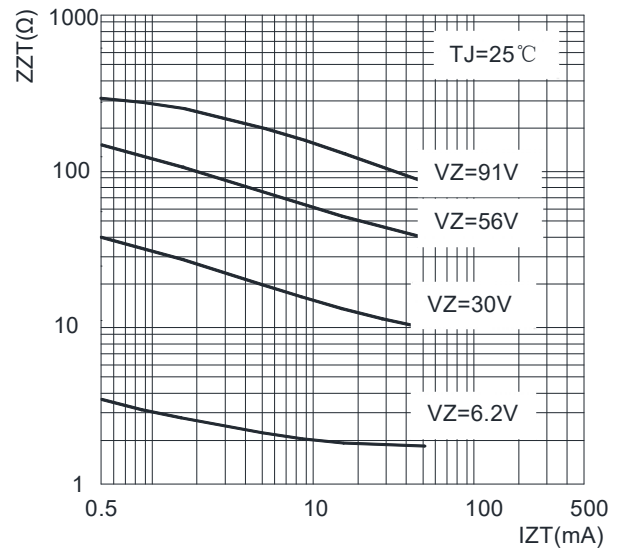


FIG2: Typical Zener Impedance



## ■ Characteristics (Typical)

FIG3: Pulse Waveform

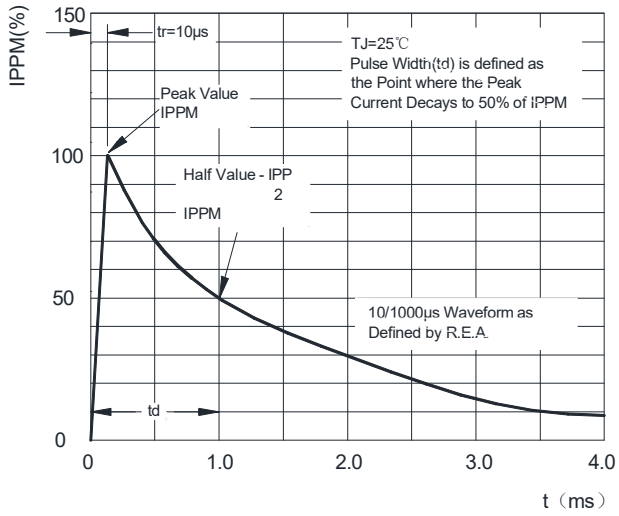


FIG4: Temperature Coefficients v.s. Zener Voltage

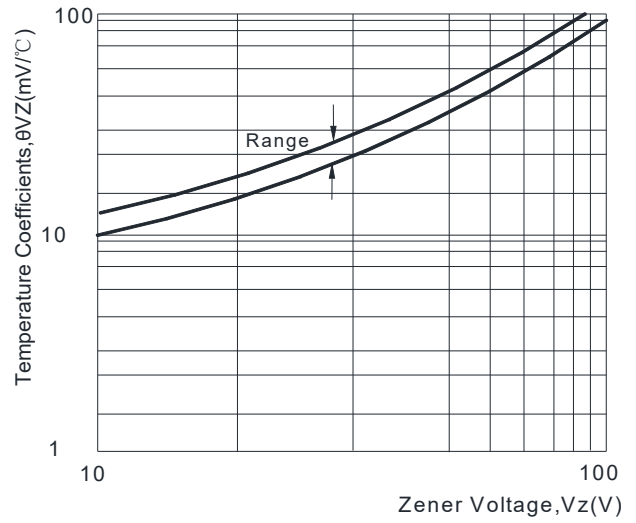
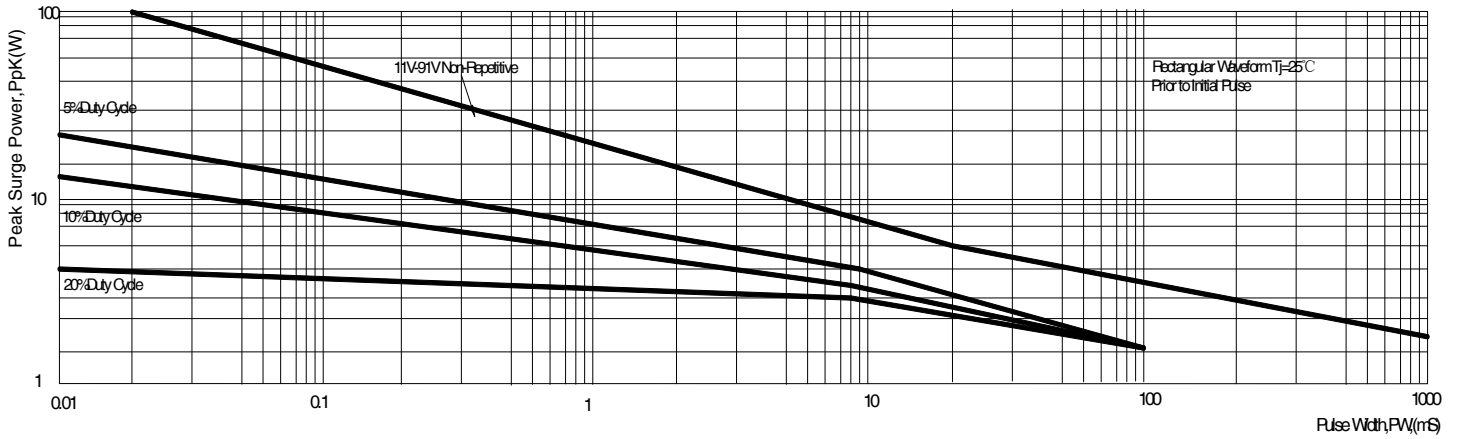
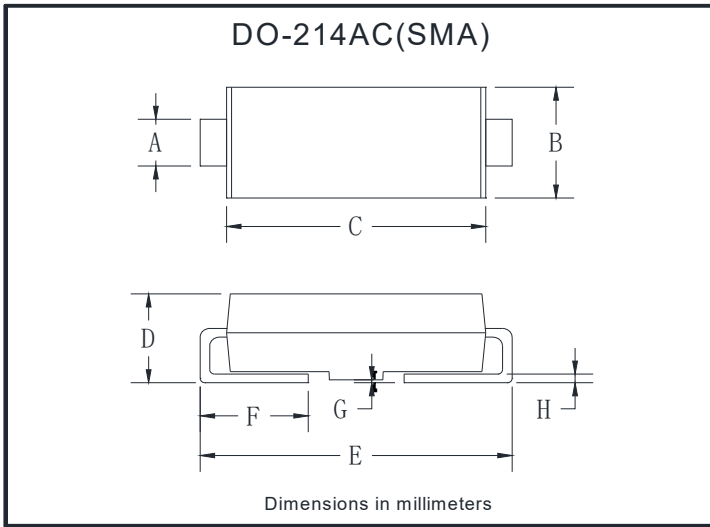


FIG5: Maximum Surge Power

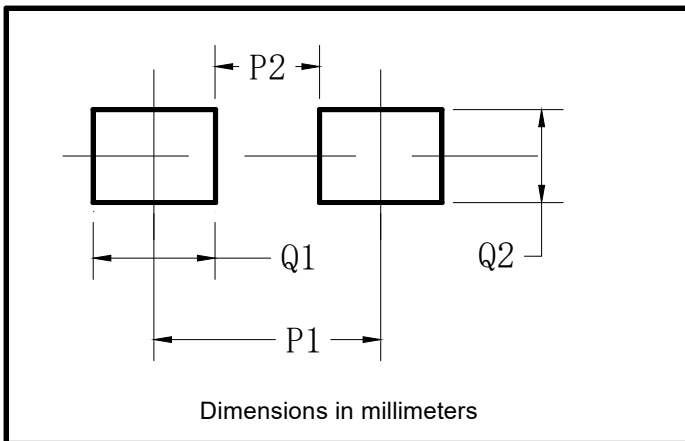


## ■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.06	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.08	0.20
H	0.15	0.31

## ■ Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
Q1	2.50
Q2	1.70