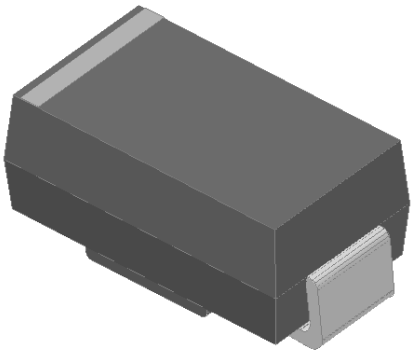
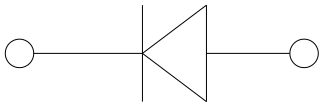
Surface Mount Zener Diodes





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

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_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	MAX
DC power dissipation at TL = 75 °C	P_D	W	2.0
Maximum instantaneous forward voltage@ I_F=200mA	V_F	V	1.5
Maximum junction temperature	T_j	℃	-55 to +150
Storage temperature range	T_{stg}	℃	-55 to +150

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage 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_{ZM}
	V	V	V	mA	Ω	Ω	mA	μA	V	mA
SMA2Z3.3A	3.14	3.3	3.47	113.6	10	500	1.00	100.0	1.0	548.0
SMA2Z3.6A	3.42	3.6	3.78	104.2	9	500	1.00	100.0	1.0	502.0
SMA2Z3.9A	3.71	3.9	4.10	96.1	7.5	500	1.00	50.0	1.0	464.0
SMA2Z4.3A	4.09	4.3	4.52	87.2	6.0	500	1.00	50.0	1.0	421.0
SMA2Z4.7A	4.47	4.7	4.94	79.8	5.0	550	1.00	10.0	1.0	385.0
SMA2Z5.1A	4.85	5.1	5.36	73.5	4.0	600	1.00	10.0	1.0	354.0
SMA2Z5.6A	5.32	5.6	5.88	66.9	2.5	500	1.00	10.0	2.0	323.0
SMA2Z6.2A	5.89	6.2	6.51	80.5	1.5	700	1.00	10.0	3.0	292.0
SMA2Z6.8A	6.46	6.8	7.14	73.5	2.0	700	1.00	10.0	4.0	266.0
SMA2Z7.5A	7.13	7.5	7.88	66.5	2.0	700	0.50	10.0	5.0	242.0
SMA2Z8.2A	7.79	8.2	8.61	61.0	2.3	700	0.50	10.0	6.0	220.0
SMA2Z9.1A	8.65	9.1	9.56	55.0	2.5	700	0.50	10.0	7.0	200.0

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage 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_{ZM}
	V	V	V	mA	Ω	Ω	mA	μA	V	mA
SMA2Z10A	9.50	10.0	10.50	50.0	3.5	700	0.25	10.0	7.6	182.0
SMA2Z11A	10.45	11.0	11.55	45.5	4.0	700	0.25	1.0	8.4	166.0
SMA2Z12A	11.40	12.0	12.60	41.5	4.5	700	0.25	1.0	9.1	152.0
SMA2Z13A	12.35	13.0	13.65	38.5	5.0	700	0.25	0.5	9.9	138.0
SMA2Z14A	13.30	14.0	14.70	35.7	5.5	700	0.25	0.5	10.6	130.0
SMA2Z15A	14.25	15.0	15.75	33.4	7.0	700	0.25	0.5	11.4	122.0
SMA2Z16A	15.20	16.0	16.80	31.2	8.0	700	0.25	0.5	12.2	114.0
SMA2Z17A	16.15	17.0	17.85	29.4	9.0	750	0.25	0.5	13.0	107.0
SMA2Z18A	17.10	18.0	18.90	27.8	10.0	750	0.25	0.5	13.7	100.0
SMA2Z19A	18.05	19.0	19.95	26.3	11.0	750	0.25	0.5	14.4	95.0
SMA2Z20A	19.00	20.0	21.00	25.0	11.0	750	0.25	0.5	15.2	90.0
SMA2Z22A	20.90	22.0	23.10	22.8	12.0	750	0.25	0.5	16.7	82.0
SMA2Z24A	22.80	24.0	25.20	20.8	13.0	750	0.25	0.5	18.2	76.0
SMA2Z27A	25.65	27.0	28.35	18.5	18.0	750	0.25	0.5	20.6	68.0
SMA2Z30A	28.50	30.0	31.50	16.6	20.0	1000	0.25	0.5	22.5	60.0
SMA2Z33A	31.35	33.0	34.65	15.1	23.0	1000	0.25	0.5	25.1	55.0
SMA2Z36A	34.20	36.0	37.80	13.9	25.0	1000	0.25	0.5	27.4	50.0
SMA2Z39A	37.05	39.0	40.95	12.8	30.0	1000	0.25	0.5	29.7	47.0
SMA2Z43A	40.85	43.0	45.15	11.6	35.0	1500	0.25	0.5	32.7	43.0
SMA2Z47A	44.65	47.0	49.35	10.6	40.0	1500	0.25	0.5	35.8	39.0
SMA2Z51A	48.45	51.0	53.55	9.8	48.0	1500	0.25	0.5	38.8	36.0
SMA2Z56A	53.20	56.0	58.80	9.0	55.0	2000	0.25	0.5	42.6	32.0
SMA2Z62A	58.90	62.0	65.10	8.1	60.0	2000	0.25	0.5	47.1	29.0
SMA2Z68A	64.60	68.0	71.40	7.4	75.0	2000	0.25	0.5	51.7	27.0
SMA2Z75A	71.25	75.0	78.75	6.7	90.0	2000	0.25	0.5	56.0	24.0
SMA2Z82A	77.90	82.0	86.10	6.1	100.0	3000	0.25	0.5	62.2	22.0
SMA2Z91A	86.45	91.0	95.55	5.5	125.0	3000	0.25	0.5	69.2	20.0
SMA2Z100A	95.00	100.0	105.00	5.0	175.0	3000	0.25	0.5	76.0	18.0
SMA2Z110A	104.50	110.0	115.50	4.5	250.0	4000	0.25	0.5	83.6	17.0
SMA2Z120A	114.00	120.0	126.00	4.2	325.0	4500	0.25	0.5	91.2	15.0
SMA2Z130A	123.50	130.0	136.50	3.8	400.0	5000	0.25	0.5	98.8	14.0
SMA2Z140A	133.00	140.0	147.00	3.6	500.0	5500	0.25	0.5	106.4	13.0
SMA2Z150A	142.50	150.0	157.50	3.3	575.0	6000	0.25	0.5	114.0	12.0
SMA2Z160A	152.00	160.0	168.00	3.1	650.0	6500	0.25	0.5	121.6	11.0
SMA2Z170A	161.50	170.0	178.50	2.9	675.0	7000	0.25	0.5	130.4	11.0

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage 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_{ZM}
	V	V	V	mA	Ω	Ω	mA	μA	V	mA
SMA2Z180A	171.00	180.0	189.00	2.8	725.0	7000	0.25	0.5	136.8	10.0
SMA2Z190A	180.50	190.0	199.50	2.6	825.0	8000	0.25	0.5	144.8	10.0
SMA2Z200A	190.00	200.0	210.00	2.5	1900.0	9990	0.25	0.5	152.0	9.0
SMA2Z220A	209.00	220.0	231.00	2.0	2000.0	8500	0.25	0.5	167.0	8.0

Notes:

（1）Nominal Zener voltage Range：95% Typ.Vz (1)at Izt----105% Typ.Vz (1)at Izt

■ **Characteristics** (Typical)

FIG1: Power Temperature Derating Crue

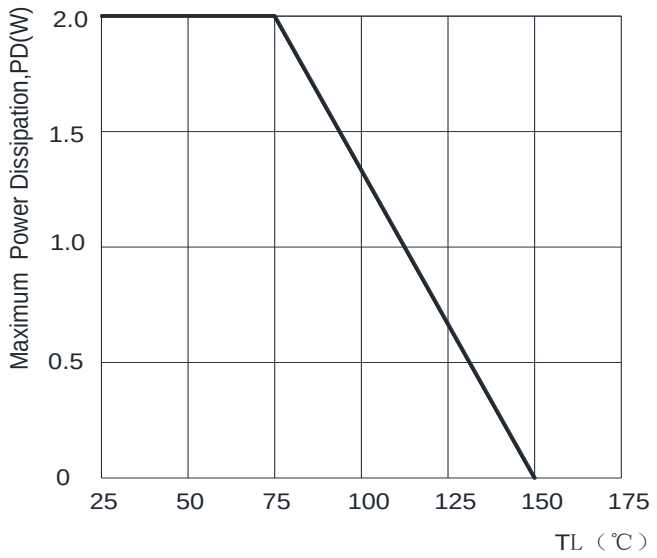


FIG2:Typical Instantaneous Forward Characteristics

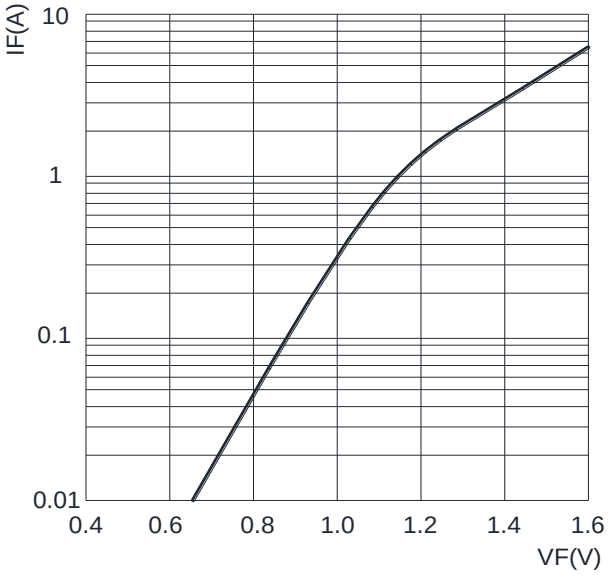


FIG3:Typical Reverse Characteristics

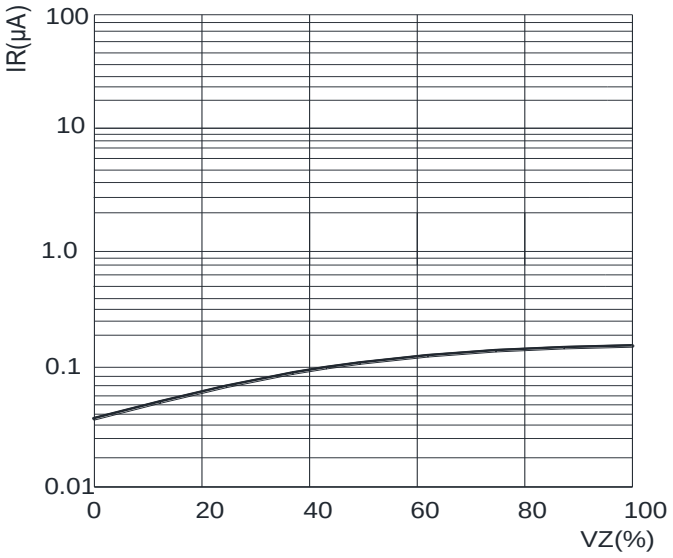
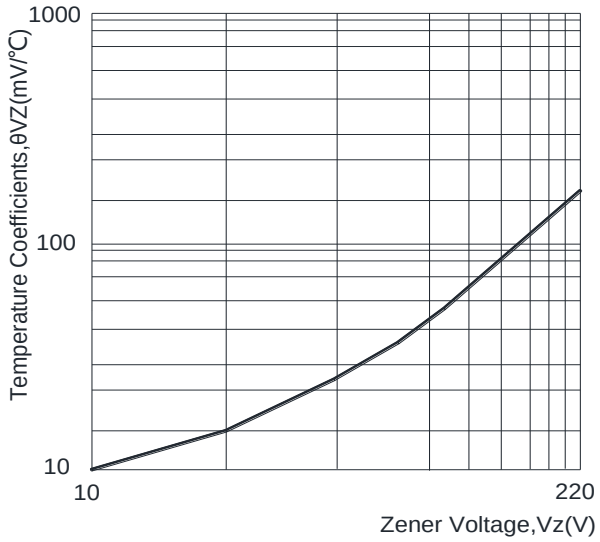


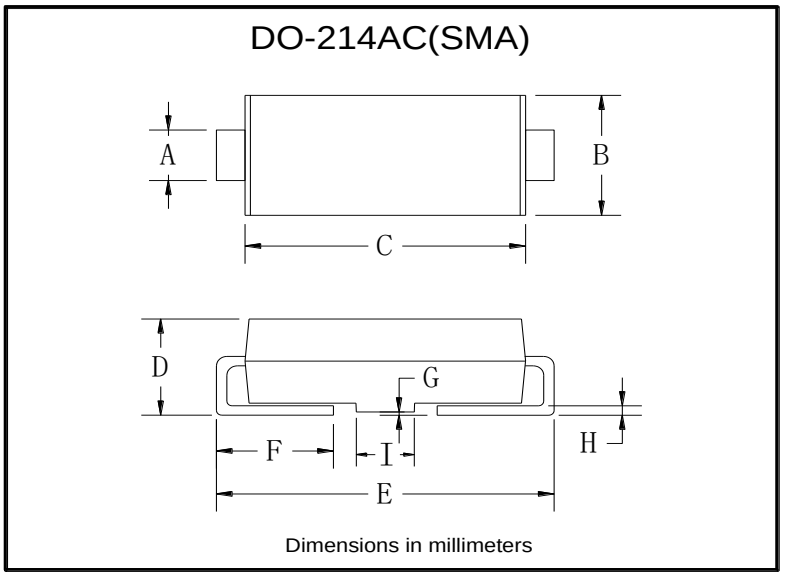
FIG4:Temperature Coefficients v.s. Zener Voltage



■**Ordering Information** (Example)

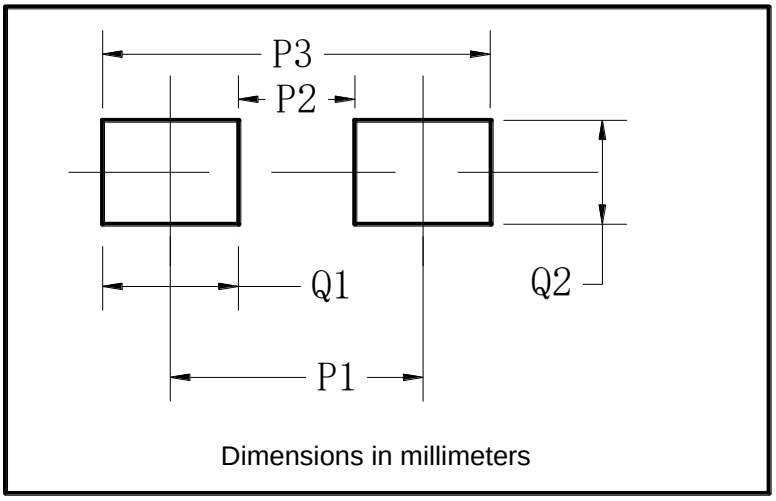
PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMA2ZXXA SERIES	F1	Approximate 0.059	5000	10000	80000	13” reel

■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.70	2.10

■Suggested Pad Layout



DO-214AC(SMA)	
Dim	**Millimeters**
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70

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