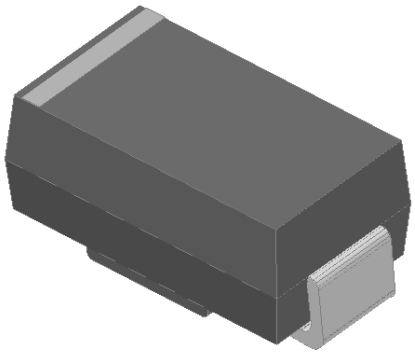
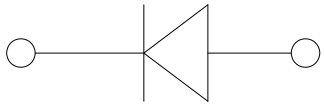
Surface Mount Zener Diodes





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 (Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	MAX
DC power dissipation at TL = 75 °C	P_D	W	1.5
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

■Thermal Characteristics （Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal resistance(Typical)	$R_{\theta J-L}$ (1)	℃/W	junction to lead	30
	$R_{\theta J-A}$ (1)	℃/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（Ta=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
SMA5913A	3.14	3.3	3.47	113.6	10.0	500	1.00	100.0	1.0	455.0
SMA5914A	3.42	3.6	3.78	104.2	9.0	500	1.00	100.0	1.0	417.0
SMA5915A	3.71	3.9	4.10	96.1	7.5	500	1.00	50.0	1.0	385.0
SMA5916A	4.09	4.3	4.52	87.2	6.0	500	1.00	10.0	1.0	349.0

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
SMA5917A	4.47	4.7	4.94	79.8	5.0	500	1.00	10.0	1.5	319.0
SMA5918A	4.85	5.1	5.36	73.5	4.0	350	1.00	10.0	2.0	294.0
SMA5919A	5.32	5.6	5.88	66.9	2.0	250	1.00	10.0	3.0	268.0
SMA5920A	5.89	6.2	6.51	60.5	2.0	200	1.00	10.0	4.0	242.0
SMA5921A	6.46	6.8	7.14	55.1	2.5	200	1.00	10.0	5.2	221.0
SMA5922A	7.13	7.5	7.88	50.0	3.0	400	0.50	10.0	6.0	200.0
SMA5923A	7.79	8.2	8.61	45.7	3.5	400	0.50	10.0	6.5	183.0
SMA5924A	8.65	9.1	9.56	41.2	4.0	500	0.50	10.0	7.0	165.0
SMA5925A	9.50	10.0	10.50	37.5	4.5	500	0.25	10.0	8.0	150.0
SMA5926A	10.45	11.0	11.55	34.1	5.5	550	0.25	0.5	8.4	136.0
SMA5927A	11.40	12.0	12.60	31.2	6.5	550	0.25	0.5	9.1	125.0
SMA5928A	12.35	13.0	13.65	28.8	7.0	550	0.25	0.5	9.9	115.0
SMA5929A	14.25	15.0	15.75	25.0	9.0	600	0.25	0.5	11.4	100.0
SMA5930A	15.20	16.0	16.80	23.4	10.0	600	0.25	0.5	12.2	94.0
SMA5931A	17.10	18.0	18.90	20.8	12.0	650	0.25	0.5	13.7	83.0
SMA5932A	19.00	20.0	21.00	18.7	14.0	650	0.25	0.5	15.2	75.0
SMA5933A	20.90	22.0	23.10	17.0	17.5	650	0.25	0.5	16.7	68.0
SMA5934A	22.80	24.0	25.20	15.6	19.0	700	0.25	0.5	18.2	63.0
SMA5935A	25.65	27.0	28.35	13.9	23.0	700	0.25	0.5	20.6	56.0
SMA5936A	28.50	30.0	31.50	12.5	26.0	750	0.25	0.5	22.8	50.0
SMA5937A	31.35	33.0	34.65	11.4	33.0	800	0.25	0.5	25.1	45.0
SMA5938A	34.20	36.0	37.80	10.4	38.0	850	0.25	0.5	27.4	42.0
SMA5939A	37.05	39.0	40.95	9.6	45.0	900	0.25	0.5	29.7	38.0
SMA5940A	40.85	43.0	45.15	8.7	53.0	950	0.25	0.5	32.7	35.0
SMA5941A	44.65	47.0	49.35	8.0	67.0	1000	0.25	0.5	35.8	32.0
SMA5942A	48.45	51.0	53.55	7.3	70.0	1100	0.25	0.5	38.8	29.0
SMA5943A	53.20	56.0	58.80	6.7	86.0	1300	0.25	0.5	42.6	27.0

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
SMA5944A	58.90	62.0	65.10	6.0	100.0	1500	0.25	0.5	47.1	24.0
SMA5945A	64.60	68.0	71.40	5.5	120.0	1700	0.25	0.5	51.7	22.0
SMA5946A	71.25	75.0	78.75	5.0	140.0	2000	0.25	0.5	56.0	20.0
SMA5947A	77.90	82.0	86.10	4.6	160.0	2500	0.25	0.5	62.2	18.0
SMA5948A	86.45	91.0	95.55	4.1	200.0	3000	0.25	0.5	69.2	16.0
SMA5949A	95.00	100.0	105.00	3.7	250.0	3100	0.25	0.5	76.0	15.0
SMA5950A	104.50	110.0	115.50	3.4	300.0	4000	0.25	0.5	83.6	14.0
SMA5951A	114.00	120.0	126.00	3.1	380.0	4500	0.25	0.5	91.2	13.0
SMA5952A	123.50	130.0	136.50	2.9	450.0	5000	0.25	0.5	98.8	12.0
SMA5953A	142.50	150.0	157.50	2.5	600.0	6000	0.25	0.5	114.0	10.0
SMA5954A	152.00	160.0	168.00	2.3	700.0	6500	0.25	0.5	121.6	9.4
SMA5955A	171.00	180.0	189.00	2.1	900.0	7000	0.25	0.5	136.8	8.3
SMA5956A	190.00	200.0	210.00	1.9	1200.0	8000	0.25	0.5	152.0	7.5

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

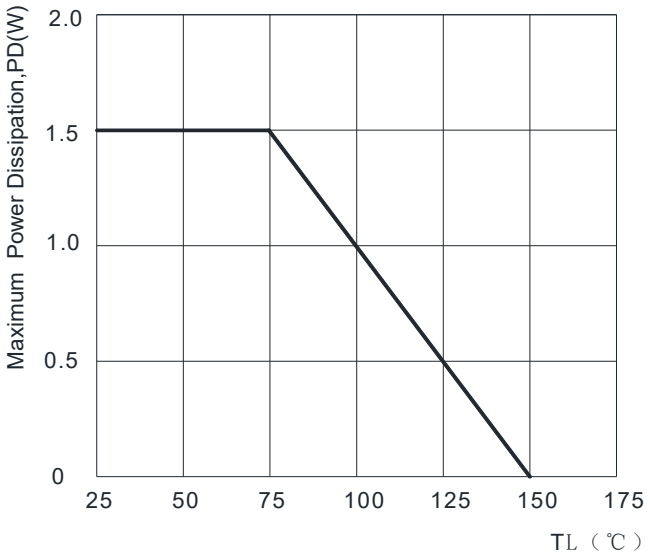


FIG2:Temperature Coefficients v.s. Zener Voltage

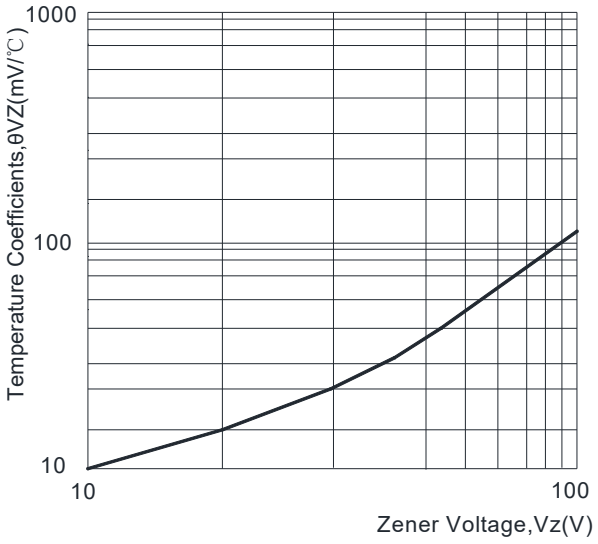


FIG3: Typical Forward Voltage

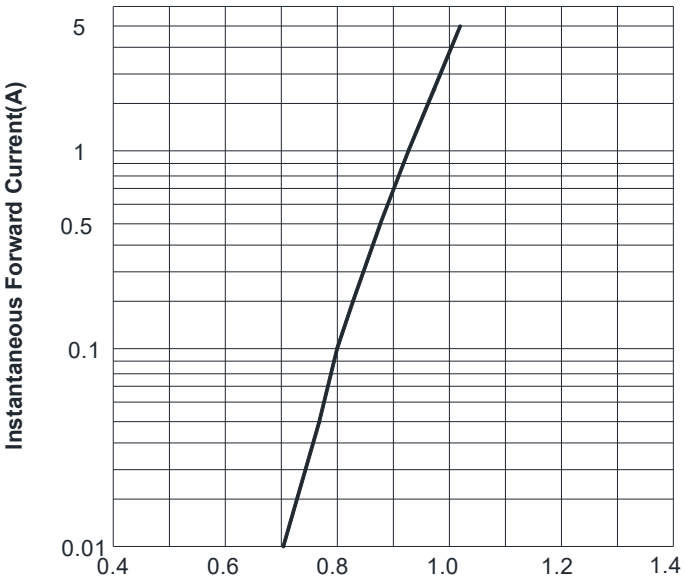
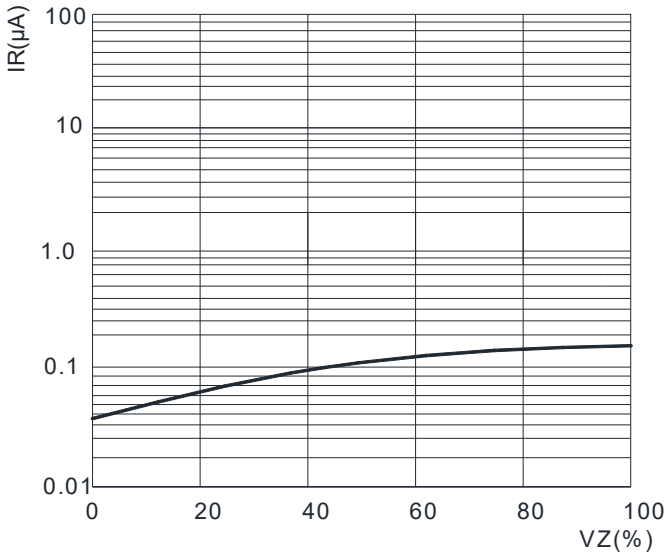


FIG4:Typical Reverse Characteristics

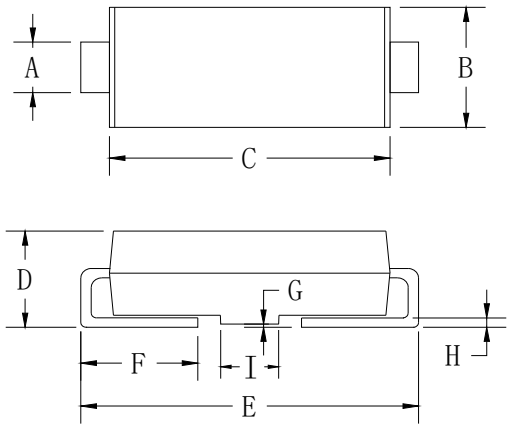


■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMA59XXA SERIES	F1	Approximate 0.059	5000	10000	80000	13” reel

■ Outline Dimensions

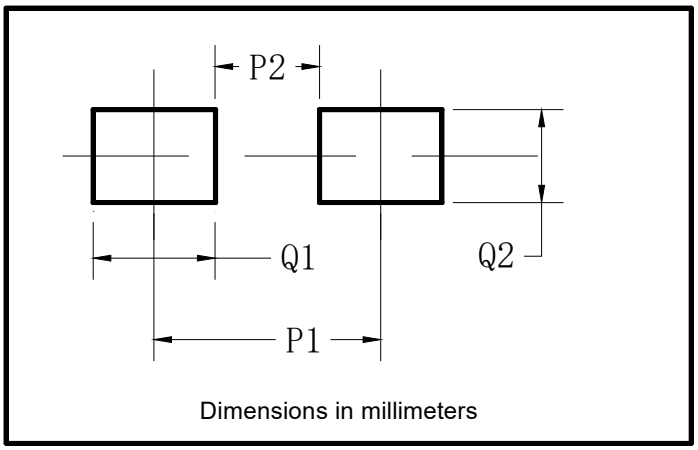
DO-214AC(SMA)



Dimensions in millimeters

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



Dimensions in millimeters

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

Notice

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