

ZENER DIODES

V_Z : 3.3 - 240 Volts

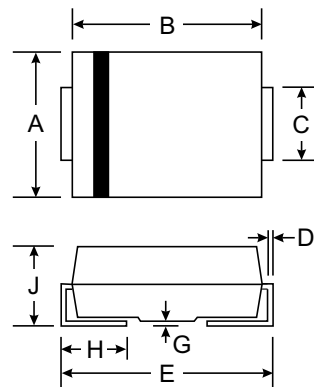
P_D : 1.5 Watts

Features

- Complete Voltage Range 3.3 to 240 Volts
- High peak reverse power dissipation
- High reliability
- Low leakage current

Mechanical Data

- Case:SMA, Plastic
- Terminals: Solder plated,solderable per MIL-STD, Method2026
- Marking: Date Code and Marking Code See Page 2
- Polarity : Color band denotes cathode end
- Weight : 0.064 gram (Approximately)

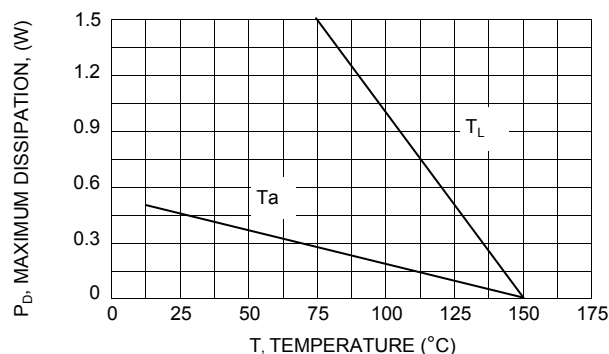


SMA(DO-214AC)		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.10	0.20
H	0.76	1.52
J	2.01	2.62
All Dimensions in mm		

MAXIMUM RATINGS Rating at 25 °C ambient temperature unless otherwise specified

Rating	Symbol	Value	Unit
DC Power Dissipation @ T _L = 75 °C	P _D	1.5	W
Measured zero lead length(1" square copper pad, FR-4 board) Derate above 75 °C		20	mW/°C
Thermal Resistance Junction to Lead	R _{ΘJL}	50	°C/W
DC Power Dissipation @ Ta = 25 °C	P _D	0.5	W
(FR-4 board) Derate above 25 °C		4.0	mW/°C
Thermal Resistance Junction to Ambient	R _{ΘJA}	250	°C/W
Maximum Forward Voltage at I _F = 200 mA	V _F	1.2	V
Operating Junction and Storang Temperature Range	T _J , T _{STG}	- 65 to + 150	°C

Fig. 1 POWER TEMPERATURE DERATING CURVE



ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Part Number	Device marking code	Zener voltage	Test current	Dynamic impedance	Knee current	Knee impedance	Reverse current	Reverse voltage	Max. DC current
		V_Z	I_{ZT}	Z_{ZT}	I_{ZK}	Z_{ZK}	$I_{R(\text{Max.})}$	V_R	I_{ZM}
		V	m A	Ω	m A	Ω	$\mu\text{ A dc}$	V	m A
SMA5913B	5913	3.3	113.6	10.0	1.0	500	100	1.0	455
SMA5914B	5914	3.6	104.2	9.0	1.0	500	75	1.0	416
SMA5915B	5915	3.9	96.1	7.5	1.0	500	25	1.0	385
SMA5916B	5916	4.3	87.2	6.0	1.0	500	5.0	1.0	349
SMA5917B	5917	4.7	79.8	5.0	1.0	500	5.0	1.5	319
SMA5918B	5918	5.1	73.5	4.0	1.0	350	5.0	2.0	294
SMA5919B	5919	5.6	66.9	2.0	1.0	250	5.0	3.0	268
SMA5920B	5920	6.2	60.5	2.0	1.0	200	5.0	4.0	242
SMA5921B	5921	6.8	55.1	2.5	1.0	200	5.0	5.2	221
SMA5922B	5922	7.5	50.0	3.0	0.5	400	5.0	6.0	200
SMA5923B	5923	8.2	45.7	3.5	0.5	400	5.0	6.5	183
SMA5924B	5924	9.1	41.2	4.0	0.5	500	5.0	7.0	165
SMA5925B	5925	10	37.5	4.5	0.25	500	5.0	8.0	150
SMA5926B	5926	11	34.1	5.5	0.25	550	1.0	8.4	136
SMA5927B	5927	12	31.2	6.5	0.25	550	1.0	9.1	125
SMA5928B	5928	13	28.8	7.0	0.25	550	1.0	9.9	115
SMA5929B	5929	15	25.0	9.0	0.25	600	1.0	11.4	100
SMA5930B	5930	16	23.4	10	0.25	600	1.0	12.2	94
SMA5931B	5931	18	20.8	12	0.25	650	1.0	13.7	83
SMA5932B	5932	20	18.7	14	0.25	650	1.0	15.2	75
SMA5933B	5933	22	17.0	17.5	0.25	650	1.0	16.7	68
SMA5934B	5934	24	15.6	19	0.25	700	1.0	18.2	63
SMA5935B	5935	27	13.9	23	0.25	700	1.0	20.6	56
SMA5936B	5936	30	12.5	28	0.25	750	1.0	22.8	50
SMA5937B	5937	33	11.4	33	0.25	800	1.0	25.1	45
SMA5938B	5938	36	10.4	38	0.25	850	1.0	27.4	42
SMA5939B	5939	39	9.6	45	0.25	900	1.0	29.7	38
SMA5940B	5940	43	8.7	53	0.25	950	1.0	32.7	35
SMA5941B	5941	47	8.0	67	0.25	1000	1.0	35.8	32
SMA5942B	5942	51	7.3	70	0.25	1100	1.0	38.8	29
SMA5943B	5943	56	6.7	86	0.25	130	1.0	42.6	27
SMA5944B	5944	62	6.0	100	0.25	1500	1.0	47.1	24
SMA5945B	5945	68	5.5	120	0.25	1700	1.0	51.2	22

Part Number	Device marking code	Zener voltage	Test current	Dynamic impedance	Knee current	Knee impedance	Reverse current	Reverse voltage	Max. DC current
		V_z	I_{ZT}	Z_{ZT}	I_{ZK}	Z_{ZK}	$I_{R(Max.)}$	V_R	I_{ZM}
		V	m A	Ω	m A	Ω	μ A dc	V	m A
SMA5946B	5946	75	5.0	140	0.25	2000	1.0	56.0	20
SMA5947B	5947	82	4.6	160	0.25	2500	1.0	62.2	18
SMA5948B	5948	91	4.1	200	0.25	3000	1.0	69.2	16
SMA5949B	5949	100	3.7	250	0.25	3100	1.0	76.0	15
SMA5950B	5950	110	3.4	300	0.25	4000	1.0	83.6	13
SMA5951B	5951	120	3.1	380	0.25	4500	1.0	91.2	12
SMA5952B	5952	130	2.9	450	0.25	5000	1.0	98.8	11
SMA5953B	5953	150	2.5	600	0.25	6000	1.0	114.0	10
SMA5954B	5954	160	2.3	700	0.25	6500	1.0	121.6	9.0
SMA5955B	5955	180	2.1	900	0.25	7000	1.0	136.8	8.0
SMA5956B	5956	200	1.9	1200	0.25	8000	1.0	152.0	7.0

Notes: 1.No suffix indicates a $\pm 20\%$ tolerance on nominal V_z . Suffix A denotes a $\pm 10\%$ tolerance, B denotes a $\pm 5\%$ tolerance, C denotes a $\pm 2\%$ tolerance, and D denotes a $\pm 1\%$ tolerance.

2. Zener voltage (V_z) is measured at $T_L=30^\circ\text{C}$. Voltage measurement to be performed 90 seconds after application of dc current.

3.The zener impedance is derived from the 60Hz ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current(I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} .