

Zener Diodes

Features

- P_{tot} 1.5W
- V_z 3.3V-240V

■ Limiting Values (Absolute Maximum Rating)

Item	Symbol	Limit	Unit
Zener Current	I_z MAX	See Table	mA
Power dissipation @ $T_L=75^\circ\text{C}$ (Note 1)	P_t	1.5	W
Forward voltage @ $I_F = 200$ mA	V_F	1.5	V
Thermal Resistance (Between junction and ambient , Note1)	$R_{\theta(ja)}$	28	$^\circ\text{C/W}$
Junction temperature / Storage temperature range	T_J, T_{STG}	-55~+150	$^\circ\text{C}$

Notes 1. Thermal resistance from junction to ambient mounted on P.C.B. with 5.0 mm x 5.0 mm copper heatsink



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■Electrical Characteristics (T_a=25°C Unless otherwise specified)

Type (Note1)	Zener voltage V _Z @I _{ZT}	I _{ZT}	Z _{ZT} @I _{ZT} (Note2)	Z _{ZK} @I _{ZK} (Note2)	I _{ZK}	I _R @V _R	V _R	I _{ZM} @50°C @V _(BR) (Note3)
	V	mA	Ω	Ω	mA	μA	V	mA
SMA5913B	3.3	113.6	10	500	1	100	1	454
SMA5914B	3.6	104.2	9	500	1	75	1	416
SMA5915B	3.9	96.1	7.5	500	1	25	1	384
SMA5916B	4.3	87.2	6	500	1	5	1	348
SMA5917B	4.7	79.8	5	500	1	5	1.5	319
SMA5918B	5.1	73.5	4	500	1	5	2	294
SMA5919B	5.6	66.9	2	500	1	5	3	267
SMA5920B	6.2	60.5	2	200	1	5	4	241
SMA5921B	6.8	55.1	2.5	200	1	5	5.2	220
SMA5922B	7.5	50	3	400	0.5	5	6	200
SMA5923B	8.2	45.7	3.5	400	0.5	5	6.5	182
SMA5924B	9.1	41.2	4	500	0.5	5	7	164
SMA5925B	10	37.5	4.5	500	0.25	5	8	150
SMA5926B	11	34.1	5.5	550	0.25	5	8.4	136
SMA5927B	12	31.2	6.5	550	0.25	1	9.1	125
SMA5928B	13	28.8	7	550	0.25	1	9.9	115
SMA5929B	15	25	9	600	0.25	1	11.4	100
SMA5930B	16	23.4	10	600	0.25	1	12.2	93
SMA5931B	18	20.8	12	650	0.25	1	13.7	83
SMA5932B	20	18.7	14	650	0.25	1	15.2	75



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SMA5933B	22	17	17.5	650	0.25	1	16.7	68
SMA5934B	24	15.6	19	700	0.25	1	18.2	62
SMA5935B	27	13.9	23	700	0.25	1	20.6	55
SMA5936B	30	12.5	26	750	0.25	1	22.8	50
SMA5937B	33	11.4	33	800	0.25	1	25.1	45
SMA5938B	36	10.4	38	850	0.25	1	27.4	41
SMA5939B	39	9.6	45	900	0.25	1	29.7	38
SMA5940B	43	8.7	53	950	0.25	1	32.7	34
SMA5941B	47	8	67	1000	0.25	1	35.8	31
SMA5942B	51	7.3	70	1100	0.25	1	38.8	29
SMA5943B	56	6.7	86	1300	0.25	1	42.6	26
SMA5944B	62	6	100	1500	0.25	1	47.1	24
SMA5945B	68	5.5	120	1700	0.25	1	51.7	22
SMA5946B	75	5	140	2000	0.25	1	56	20
SMA5947B	82	4.6	160	2500	0.25	1	62.2	18
SMA5948B	91	4.1	200	3000	0.25	1	69.2	16
SMA5949B	100	3.7	250	3100	0.25	1	76	15
SMA5950B	110	3.4	300	4000	0.25	1	83.6	13
SMA5951B	120	3.1	380	4500	0.25	1	91.2	12
SMA5952B	130	2.9	450	5000	0.25	1	98.8	11
SMA5953B	150	2.5	600	6000	0.25	1	114	10
SMA5954B	160	2.3	700	6500	0.25	1	121.6	9
SMA5955B	180	2.1	900	7000	0.25	1	136.8	8
SMA5956B	200	1.9	1200	8000	0.25	1	152	7



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SMA5957B	240	1.5	1600	9000	0.25	1	182.4	6
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Notes :

1. Zener Tolerance: $\pm 5\%$.
2. The zener impedance is derived from the 60-cycle 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 to I_{zt} or I_{zk} .
3. The max zener current is not absolute , Please confirm that the product of the voltage and current should not exceed the rated Power dissipation in actual zener application.

Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMA5913B THRU SMA5957B	F1	Approximate 0.065	5000	10000	100000	13" reel

Characteristics(Typical)

FIG1: Maximum Continuous Power Dissipation

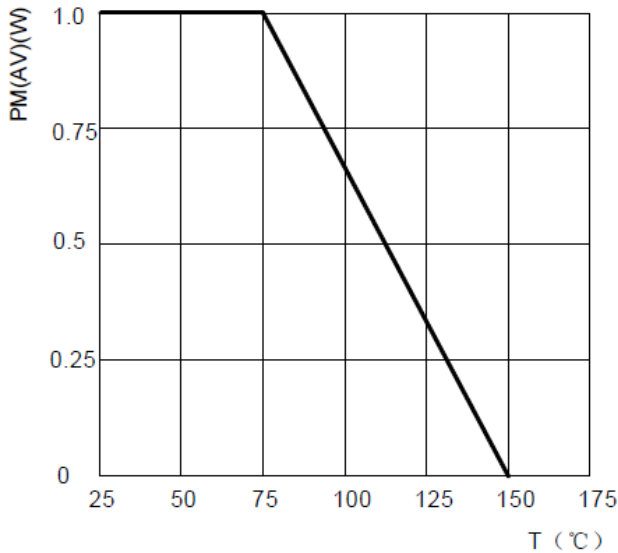


FIG2: Typical Zener Impedance

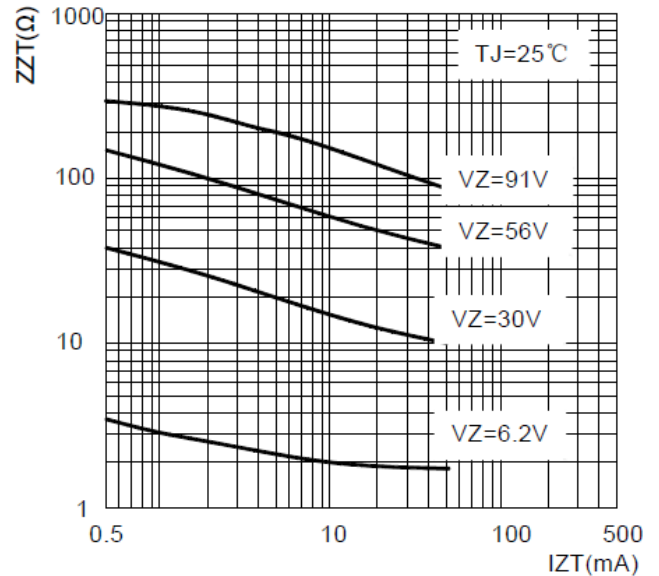


FIG3: Typical Temperature Coefficients

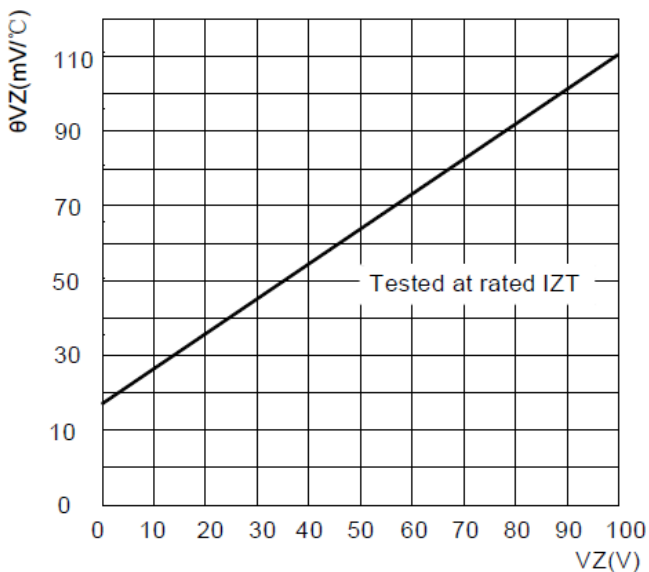
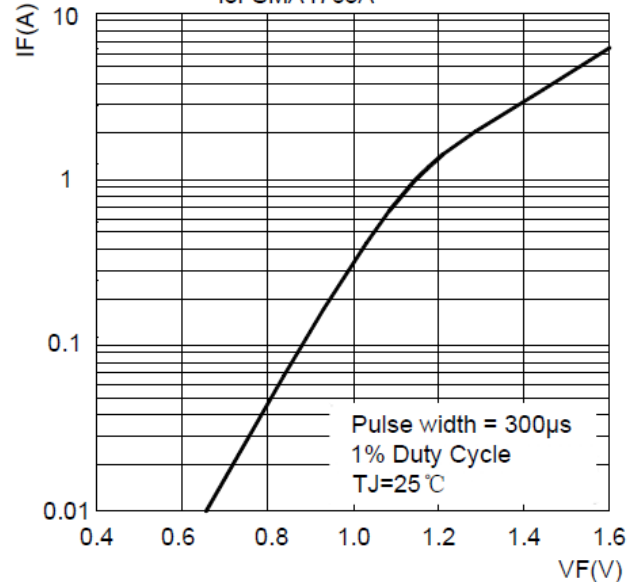
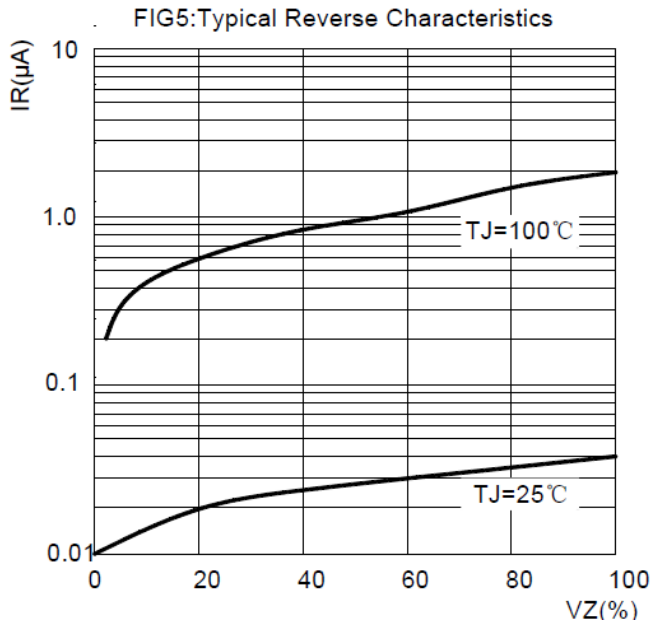


FIG4: Typical Instantaneous Forward Characteristics for SMA4763A





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