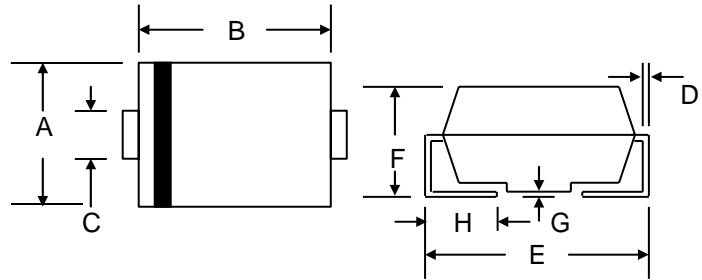


Features

- Glass Passivated Die Construction
- 1.0W Power Dissipation
- 3.3V – 200V Nominal Zener Voltage
- 5% Standard Vz Tolerance
- Low Inductance
- For Use in Voltage Regulator or Reference
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- AEC-Q101 qualified
- Meet MSL level 1 per J-STD-020



Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Marking: Device Code
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 5**

SMA/DO-214AC		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.90
D	0.152	0.305
E	4.80	5.30
F	2.00	2.44
G	0.051	0.203
H	0.76	1.52
All Dimensions in mm		

Maximum Ratings @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation at $T_L=125^{\circ}\text{C}$ (Note 1)	P_D	≥ 0.5	W
Power Dissipation at $T_A=25^{\circ}\text{C}$		≥ 1.0	
Non repeated peak pulse power at $T_J=25^{\circ}\text{C}$, pulse width 100uS square waveform	P	≥ 60	W
Forward Voltage @ $I_F=200\text{mA}$	V_F	≤ 1.2	V
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	135	$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Lead (Note 1)	$R_{\theta JL}$	15	
Operating and Storage Temperature Range	T_J, T_{STG}	-50 to +150	$^{\circ}\text{C}$

Note: 1. Mounted on FR-4 PCB with 25.4 x 25.4 x 1.5 mm, pads size with 5 x 5mm, copper thickness with 1oz

T_A test point located 5mm directly above

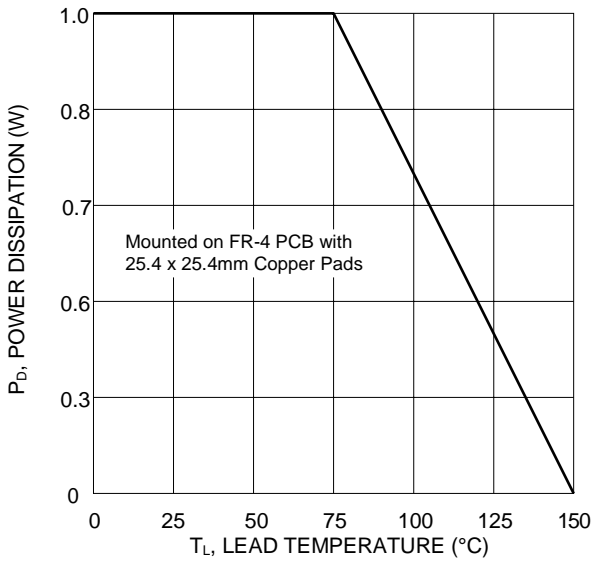


Fig. 1 Power Derating Curve

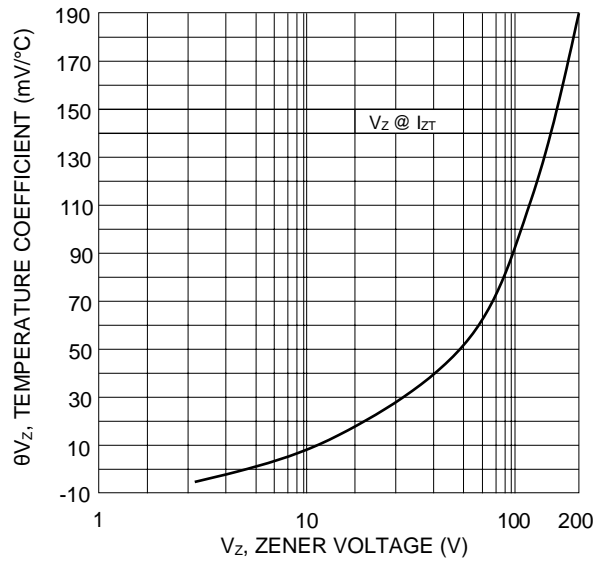


Fig. 2 Typical Temperature Coefficients

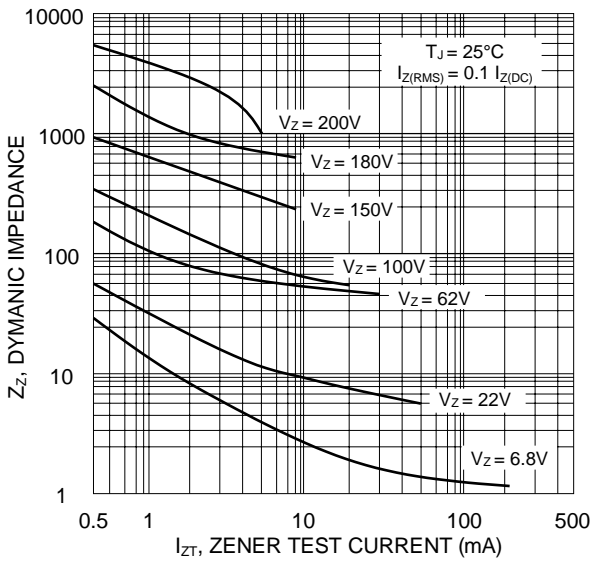


Fig. 3 Dynamic Resistance vs. Zener Current

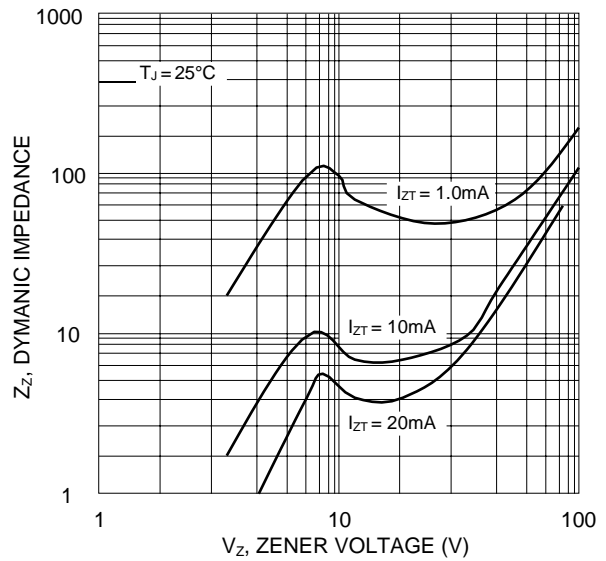


Fig. 3 Dynamic Resistance vs. Zener Voltage

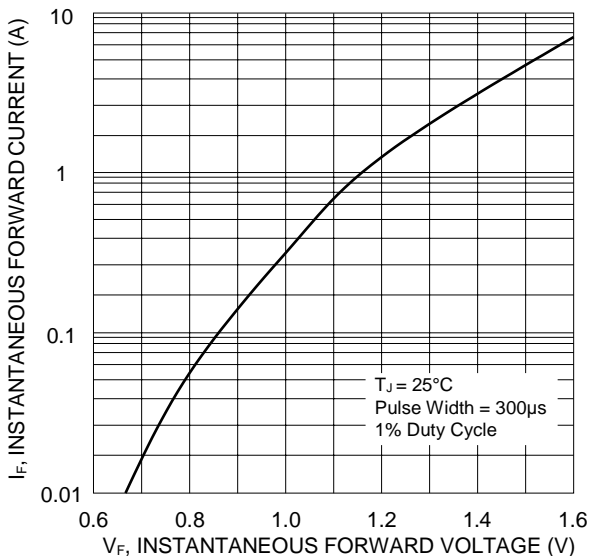


Fig. 5 Typical Forward Characteristics

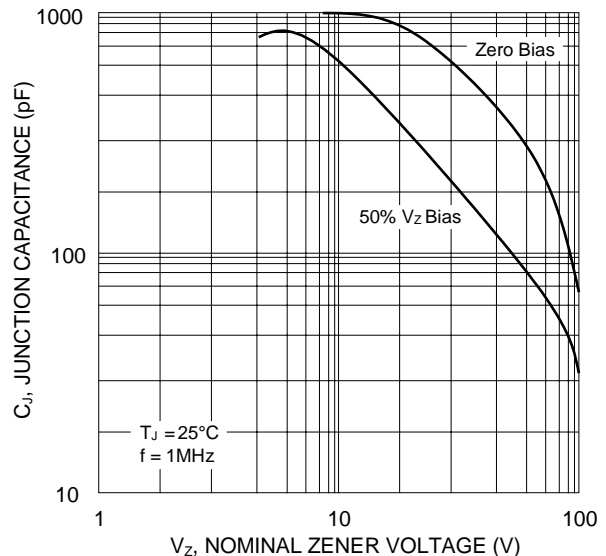


Fig. 6 Junction Capacitance vs. Nominal Zener Voltage

Electrical Characteristics (@T_A=25°C unless otherwise specified) Table 1

Type Number (Note 1)	Device Marking Code	Nominal Zener Voltage (Note 2)	Test Current	Maximum Zener Impedance (Note 3)			Maximum Leakage Current		Max DC Zener Current
		V _Z @ I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R		I _{ZM}
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
SZ5913S1	813B	3.3	113.6	10.0	500	1.00	100	1.0	455
SZ5914S1	814B	3.6	104.2	9.0	500	1.00	75	1.0	417
SZ5915S1	815B	3.9	96.1	7.5	500	1.00	25	1.0	385
SZ5916S1	816B	4.3	87.2	6.0	500	1.00	5.0	1.0	349
SZ5917S1	817B	4.7	79.8	5.0	500	1.00	5.0	1.5	319
SZ5918S1	818B	5.1	73.5	4.0	350	1.00	5.0	2.0	294
SZ5919S1	819B	5.6	66.9	2.0	250	1.00	5.0	3.0	268
SZ5920S1	820B	6.2	60.5	2.0	200	1.00	100	4.0	242
SZ5921S1	821B	6.8	55.1	2.5	200	1.00	80	5.2	221
SZ5922S1	822B	7.5	50.0	3.0	400	0.50	70	6.0	200
SZ5923S1	823B	8.2	45.7	3.5	400	0.50	70	6.5	183
SZ5924S1	824B	9.1	41.2	4.0	500	0.50	70	7.0	165
SZ5925S1	825B	10	37.5	4.5	500	0.25	2.5	8.0	150
SZ5926S1	826B	11	34.1	5.5	550	0.25	0.5	8.4	136
SZ5927S1	827B	12	31.2	6.5	550	0.25	0.5	9.1	125
SZ5928S1	828B	13	28.8	7.0	550	0.25	0.5	9.9	115
SZ5929S1	829B	15	25.0	9.0	600	0.25	0.5	11.4	100
SZ5930S1	830B	16	23.4	10.0	600	0.25	0.5	12.2	94
SZ5931S1	831B	18	20.8	12.0	650	0.25	0.5	13.7	83
SZ5932S1	832B	20	18.7	14.0	650	0.25	0.5	15.2	75
SZ5933S1	833B	22	17.0	17.5	650	0.25	0.5	16.7	68
SZ5934S1	834B	24	15.6	19.0	700	0.25	0.5	18.2	63
SZ5935S1	835B	27	13.9	23.0	700	0.25	0.5	20.6	56
SZ5936S1	836B	30	12.5	26.0	750	0.25	0.5	22.8	50
SZ5937S1	837B	33	11.4	33.0	800	0.25	0.5	25.1	45
SZ5938S1	838B	36	10.4	38.0	850	0.25	0.5	27.4	42
SZ5939S1	839B	39	9.6	45.0	900	0.25	0.5	29.7	38
SZ5940S1	840B	43	8.7	53.0	950	0.25	0.5	32.7	35
SZ5941S1	841B	47	8.0	67.0	1000	0.25	0.5	35.8	32
SZ5942S1	842B	51	7.3	70.0	1100	0.25	0.5	38.8	29
SZ5943S1	843B	56	6.7	86.0	1300	0.25	0.5	42.6	27
SZ5944S1	844B	62	6.0	100.0	1500	0.25	0.5	47.1	24
SZ5945S1	845B	68	5.5	120.0	1700	0.25	0.5	51.7	22
SZ5946S1	846B	75	5.0	140.0	2000	0.25	0.5	56.0	20
SZ5947S1	847B	82	4.6	160.0	2500	0.25	0.5	62.2	18
SZ5948S1	848B	91	4.1	200.0	3000	0.25	0.5	69.2	16
SZ5949S1	849B	100	3.7	250.0	3100	0.25	0.5	76.0	15
SZ5950S1	850B	110	3.4	300.0	4000	0.25	0.5	83.6	13
SZ5951S1	851B	120	3.1	380.0	4500	0.25	0.5	91.2	12
SZ5952S1	852B	130	2.9	450.0	5000	0.25	0.5	98.8	11
SZ5953S1	853B	150	2.5	600.0	6000	0.25	0.5	114.0	10
SZ5954S1	854B	160	2.3	700.0	6500	0.25	0.5	121.6	9.0
SZ5955S1	855B	180	2.1	900.0	7000	0.25	0.5	136.8	8.0
SZ5956S1	856B	200	1.9	1200.0	8000	0.25	0.5	152.0	7.0

Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of ±5%.

2. Measured under thermal equilibrium and DC (I_{ZT}) test conditions.

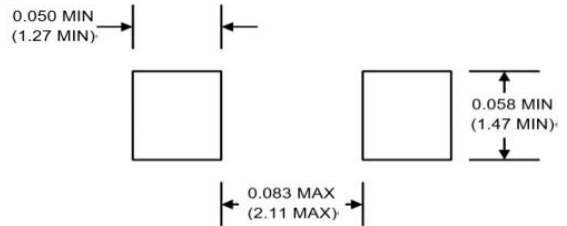
3. The Zener impedance is derived from the 60Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

MARKING INFORMATION



Cathode = Polarity Band
xx = Device Code, See Table 1

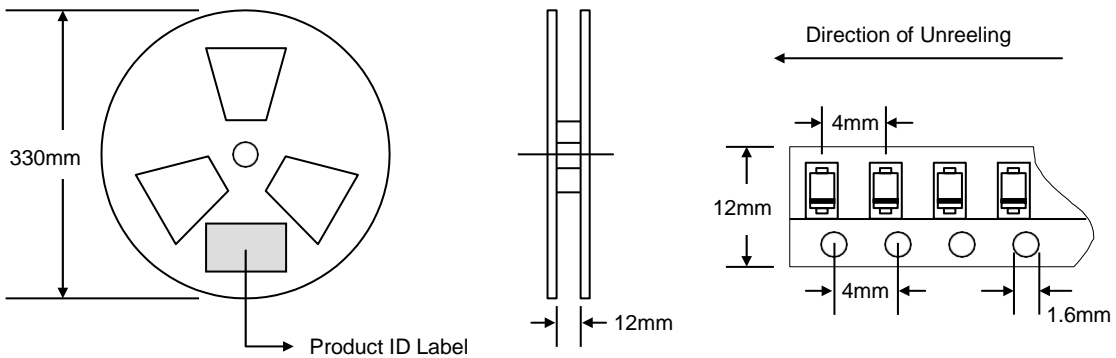
RECOMMENDED FOOTPRINT



inches(mm)

PACKAGING INFORMATION

TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	5,000	340 x 337 x 45	10,000	370 x 370 x 420	80,000	14.0

Note: 1. Paper reel, white or gray color.
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
SZ59xxS1-T3	SMA	5000/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add “-LF” suffix to part number above. For example, SZMA5913S1-T3-LF.**

Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	13-Aug-2021
1.1	Update Thermal Resistance	15-Aug-2023
1.2	Update MSL 1 Level	12-Nov-2023