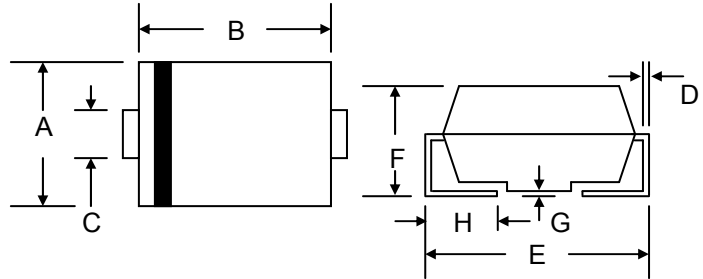


### Features

- Glass Passivated Die Construction
- 3.0W 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



### Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Marking: Device Code
- Weight: 0.093 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 6**

SMB/DO-214AA		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.11
D	0.152	0.305
E	5.08	5.59
F	2.13	2.44
G	0.051	0.203
H	0.76	1.27
All Dimensions in mm		

### Maximum Ratings @T<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation at T <sub>L</sub> = 75°C (Note 1) Derate above 75°C	P <sub>D</sub>	3.0 40	W mW/°C
Forward Voltage @ I <sub>F</sub> = 200mA	V <sub>F</sub>	1.5	V
Thermal Resistance, Junction to Ambient (Note 2)	R <sub>JA</sub>	226	°C/W
Thermal Resistance, Junction to Lead (Note 1)	R <sub>JL</sub>	25	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

- Note: 1. Mounted on FR-4 PCB with 25.4 x 25.4mm copper pads.  
2. Mounted on ceramic substrate with minimum recommended pad layout.

# 1SMB5913B – 1SMB5956B

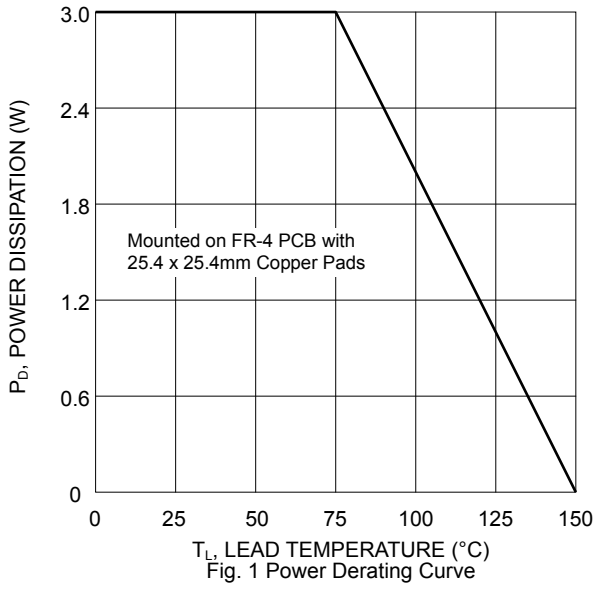


Fig. 1 Power Derating Curve

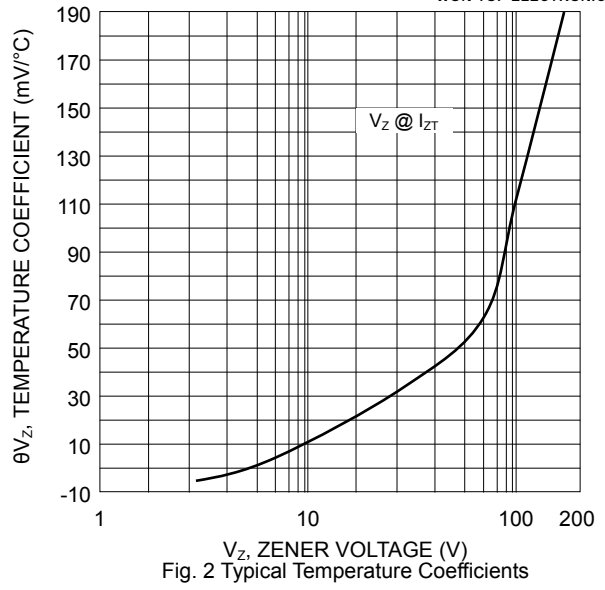


Fig. 2 Typical Temperature Coefficients

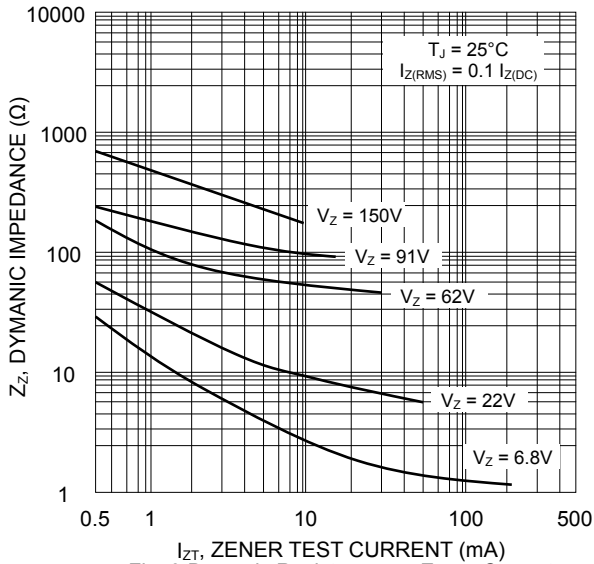


Fig. 3 Dynamic Resistance vs. Zener Current

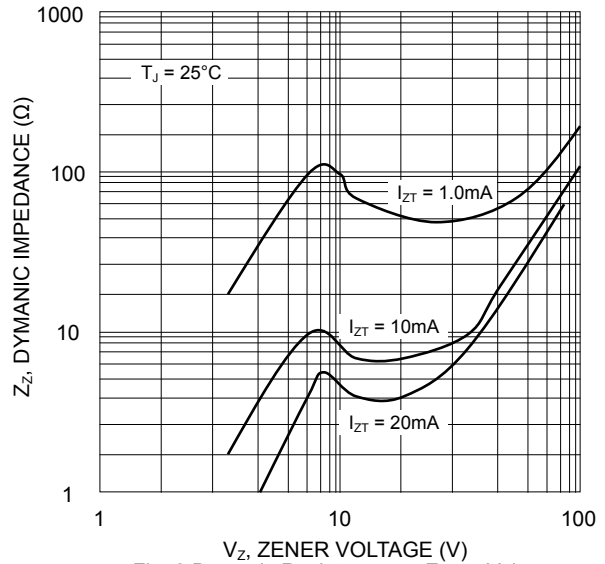


Fig. 3 Dynamic Resistance vs. Zener Voltage

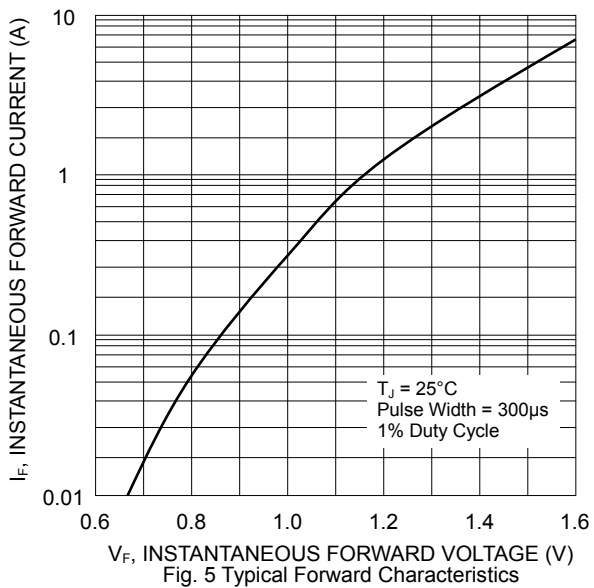


Fig. 5 Typical Forward Characteristics

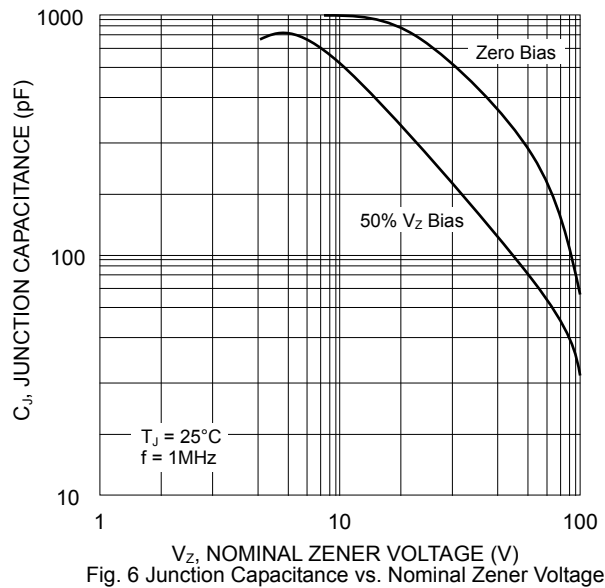


Fig. 6 Junction Capacitance vs. Nominal Zener Voltage

**Electrical Characteristics (@T<sub>A</sub>=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 <sub>Z</sub> @ I <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub> @ V <sub>R</sub>		I <sub>ZM</sub>
		(V)	(mA)	( Ω )	( Ω )	(mA)	(μA)	(V)	(mA)
1SMB5913B	913B	3.3	113.6	10.0	500	1.00	100	1.0	454
1SMB5914B	914B	3.6	104.2	9.0	500	1.00	75	1.0	416
1SMB5915B	915B	3.9	96.1	7.5	500	1.00	25	1.0	384
1SMB5916B	916B	4.3	87.2	6.0	500	1.00	5.0	1.0	348
1SMB5917B	917B	4.7	79.8	5.0	500	1.00	5.0	1.5	319
1SMB5918B	918B	5.1	73.5	4.0	350	1.00	5.0	2.0	294
1SMB5919B	919B	5.6	66.9	2.0	250	1.00	5.0	3.0	267
1SMB5920B	920B	6.2	60.5	2.0	200	1.00	5.0	4.0	241
1SMB5921B	921B	6.8	55.1	2.5	200	1.00	5.0	5.2	220
1SMB5922B	922B	7.5	50.0	3.0	400	0.50	5.0	6.0	200
1SMB5923B	923B	8.2	45.7	3.5	400	0.50	5.0	6.5	182
1SMB5924B	924B	9.1	41.2	4.0	500	0.50	5.0	7.0	164
1SMB5925B	925B	10	37.5	4.5	500	0.25	5.0	8.0	150
1SMB5926B	926B	11	34.1	5.5	550	0.25	1.0	8.4	136
1SMB5927B	927B	12	31.2	6.5	550	0.25	1.0	9.1	125
1SMB5928B	928B	13	28.8	7.0	550	0.25	1.0	9.9	115
1SMB5929B	929B	15	25.0	9.0	600	0.25	1.0	11.4	100
1SMB5930B	930B	16	23.4	10.0	600	0.25	1.0	12.2	93
1SMB5931B	931B	18	20.8	12.0	650	0.25	1.0	13.7	83
1SMB5932B	932B	20	18.7	14.0	650	0.25	1.0	15.2	75
1SMB5933B	933B	22	17.0	17.5	650	0.25	1.0	16.7	68
1SMB5934B	934B	24	15.6	19.0	700	0.25	1.0	18.2	62
1SMB5935B	935B	27	13.9	23.0	700	0.25	1.0	20.6	55
1SMB5936B	936B	30	12.5	28.0	750	0.25	1.0	22.8	50
1SMB5937B	937B	33	11.4	33.0	800	0.25	1.0	25.1	45
1SMB5938B	938B	36	10.4	38.0	850	0.25	1.0	27.4	41
1SMB5939B	939B	39	9.6	45.0	900	0.25	1.0	29.7	38
1SMB5940B	940B	43	8.7	53.0	950	0.25	1.0	32.7	34
1SMB5941B	941B	47	8.0	67.0	1000	0.25	1.0	35.8	31
1SMB5942B	942B	51	7.3	70.0	1100	0.25	1.0	38.8	29
1SMB5943B	943B	56	6.7	86.0	1300	0.25	1.0	42.6	26
1SMB5944B	944B	62	6.0	100.0	1500	0.25	1.0	47.1	24
1SMB5945B	945B	68	5.5	120.0	1700	0.25	1.0	51.7	22
1SMB5946B	946B	75	5.0	140.0	2000	0.25	1.0	56.0	20
1SMB5947B	947B	82	4.6	160.0	2500	0.25	1.0	62.2	18
1SMB5948B	948B	91	4.1	200.0	3000	0.25	1.0	69.2	16
1SMB5949B	949B	100	3.7	250.0	3100	0.25	1.0	76.0	15
1SMB5950B	950B	110	3.4	300.0	4000	0.25	1.0	83.6	13
1SMB5951B	951B	120	3.1	380.0	4500	0.25	1.0	91.2	12
1SMB5952B	952B	130	2.9	450.0	5000	0.25	1.0	98.8	11
1SMB5953B	953B	150	2.5	600.0	6000	0.25	1.0	114.0	10
1SMB5954B	954B	160	2.3	700.0	6500	0.25	1.0	121.6	9.0
1SMB5955B	955B	180	2.1	900.0	7000	0.25	1.0	136.8	8.0
1SMB5956B	956B	200	1.9	1200.0	8000	0.25	1.0	152.0	7.0

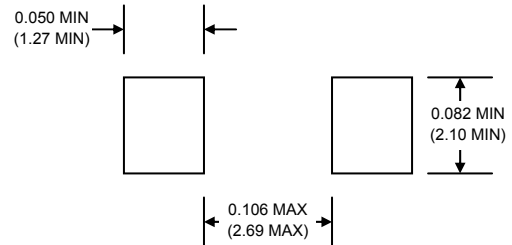
- Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of ±5%.  
2. Measured under thermal equilibrium and DC (I<sub>ZT</sub>) test conditions.  
3. The Zener impedance is derived from the 60Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. 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

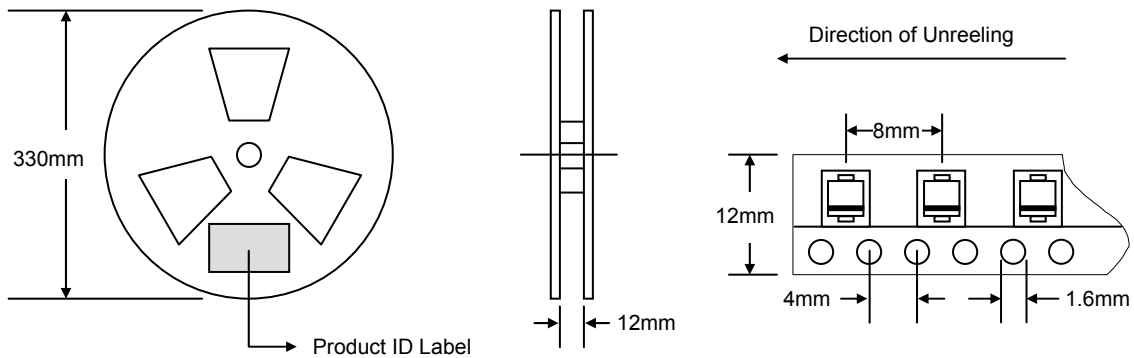
## RECOMMENDED FOOTPRINT



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	3,000	340 x 337 x 45	6,000	370 x 370 x 420	48,000	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
1SMB59xxB-T3	SMB	3000/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, 1SMB5913B-T3-LF.**

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