

# 1SMBF5913A - 1SMBF5957A

## SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE RANGE: 3.3 - 240V**

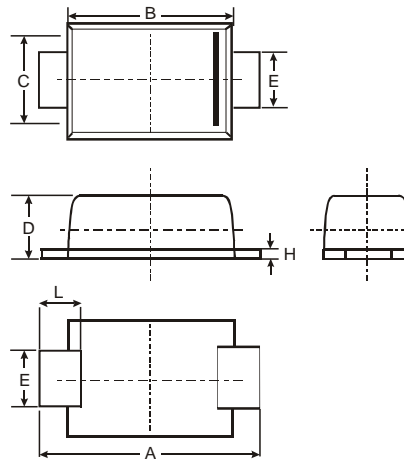
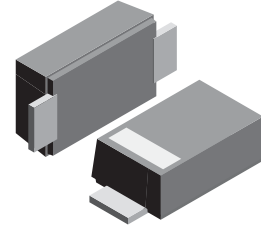
**POWER: 1.5Watts**

### Features

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

### Mechanical Data

- Case: SMBF , Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.0018 ounces, 0.05grams



SMBF			
Dim	Min	Max	Typ
A	5.45	5.55	5.50
B	4.27	4.33	4.30
C	3.57	3.63	3.60
D	1.32	1.38	1.35
E	1.96	2.00	1.98
H	0.019	0.021	0.20
L	0.73	0.77	0.75
All Dimensions in mm			

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

Rating	Symbol	Value	Unit
DC Power Dissipation @ $T_L = 75^\circ\text{C}$	$P_D$	1.5	W
Measured zero lead length (1" square copper pad, FR-4 board) Derate above $75^\circ\text{C}$		20	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Lead	$R_{\theta JL}$	50	$^\circ\text{C}/\text{W}$
DC Power Dissipation @ $T_a = 25^\circ\text{C}$ (FR-4 board) Derate above $25^\circ\text{C}$	$P_D$	0.5	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	250	$^\circ\text{C}/\text{W}$
Maximum Forward Voltage at $I_F = 200\text{ mA}$	$V_F$	1.5	V
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	- 65 to + 150	$^\circ\text{C}$



## ELECTRICAL CHARACTERISTICS Rating at 25 °C ambient temperature unless otherwise specified

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	Vz @ IzT	IzT	ZzT @ IzT	Zzk @ Izk	Izk	IR @ VR		IzM
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1SMBF5913A	3.3	113.6	10	500	1.0	100	1.0	454
1SMBF5914A	3.6	104.2	9.0	500	1.0	75	1.0	416
1SMBF5915A	3.9	96.1	7.5	500	1.0	25	1.0	384
1SMBF5916A	4.3	87.2	6.0	500	1.0	5.0	1.0	348
1SMBF5917A	4.7	79.8	5.0	500	1.0	5.0	1.5	319
1SMBF5918A	5.1	73.5	4.0	350	1.0	5.0	2.0	294
1SMBF5919A	5.6	66.9	2.0	250	1.0	5.0	3.0	267
1SMBF5920A	6.2	60.5	2.0	200	1.0	5.0	4.0	241
1SMBF5921A	6.8	55.1	2.5	200	1.0	50	5.2	220
1SMBF5922A	7.5	50.0	3.0	400	0.5	50	6.0	200
1SMBF5923A	8.2	45.7	3.5	400	0.5	50	6.5	182
1SMBF5924A	9.1	41.2	4.0	500	0.5	50	7.0	164
1SMBF5925A	10	37.5	4.5	500	0.25	50	8.0	150
1SMBF5926A	11	34.1	5.5	550	0.25	50	8.4	136
1SMBF5927A	12	31.2	6.5	550	0.25	1.0	9.1	125
1SMBF5928A	13	28.8	7.0	550	0.25	1.0	9.9	115
1SMBF5929A	15	25.0	9.0	600	0.25	1.0	11.4	100
1SMBF5930A	16	23.4	10	600	0.25	1.0	12.2	93
1SMBF5931A	18	20.8	12	650	0.25	1.0	13.7	83
1SMBF5932A	20	18.7	14	650	0.25	1.0	15.2	75
1SMBF5933A	22	17.0	17.5	650	0.25	1.0	16.7	68
1SMBF5934A	24	15.6	19	700	0.25	1.0	18.2	62
1SMBF5935A	27	13.9	23	700	0.25	1.0	20.6	55
1SMBF5936A	30	12.5	26	750	0.25	1.0	22.8	50
1SMBF5937A	33	11.4	33	800	0.25	1.0	25.1	45
1SMBF5938A	36	10.4	38	850	0.25	1.0	27.4	41
1SMBF5939A	39	9.6	45	900	0.25	1.0	29.7	38
1SMBF5940A	43	8.7	53	950	0.25	1.0	32.7	34
1SMBF5941A	47	8.0	67	1000	0.25	1.0	35.8	31
1SMBF5942A	51	7.3	70	1100	0.25	1.0	38.8	29
1SMBF5943A	56	6.7	86	1300	0.25	1.0	42.6	26
1SMBF5944A	62	6.0	100	1500	0.25	1.0	47.1	24
1SMBF5945A	68	5.5	120	1700	0.25	1.0	51.7	22
1SMBF5946A	75	5.0	140	2000	0.25	1.0	56.0	20
1SMBF5947A	82	4.6	160	2500	0.25	1.0	62.2	18
1SMBF5948A	91	4.1	200	3000	0.25	1.0	69.2	16
1SMBF5949A	100	3.7	250	3100	0.25	1.0	76.0	15
1SMBF5950A	110	3.4	300	4000	0.25	1.0	83.6	13
1SMBF5951A	120	3.1	380	4500	0.25	1.0	91.2	12
1SMBF5952A	130	2.9	450	5000	0.25	1.0	98.8	11
1SMBF5953A	150	2.5	600	6000	0.25	1.0	114.0	10
1SMBF5954A	160	2.3	700	6500	0.25	1.0	121.6	9.0
1SMBF5955A	180	2.1	900	7000	0.25	1.0	136.8	8.0
1SMBF5956A	200	1.9	1200	8000	0.25	1.0	152.0	7.0
1SMBF5957A	240	1.5	1600	9000	0.25	1.0	182.4	6.0

**Note :**

(1) Suffix " B " indicates ± 5% tolerance suffix " A " indicates ± 10% tolerance.