

# 1SMBF5913B - 1SMBF5957B

## SURFACE MOUNT SILICON ZENER DIODES

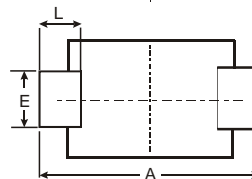
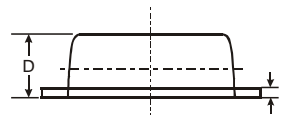
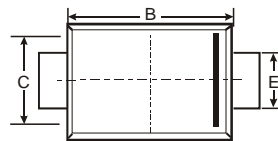
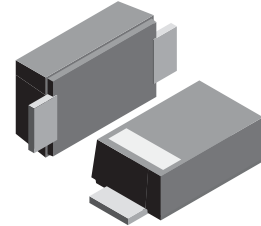
**VOLTAGE RANGE: 3.3 - 240V**  
**POWER: 1.5Watts**

### 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)
1SMBF5913B	3.3	113.6	10	500	1.0	100	1.0	454
1SMBF5914B	3.6	104.2	9.0	500	1.0	75	1.0	416
1SMBF5915B	3.9	96.1	7.5	500	1.0	25	1.0	384
1SMBF5916B	4.3	87.2	6.0	500	1.0	5.0	1.0	348
1SMBF5917B	4.7	79.8	5.0	500	1.0	5.0	1.5	319
1SMBF5918B	5.1	73.5	4.0	350	1.0	5.0	2.0	294
1SMBF5919B	5.6	66.9	2.0	250	1.0	5.0	3.0	267
1SMBF5920B	6.2	60.5	2.0	200	1.0	5.0	4.0	241
1SMBF5921B	6.8	55.1	2.5	200	1.0	50	5.2	220
1SMBF5922B	7.5	50.0	3.0	400	0.5	50	6.0	200
1SMBF5923B	8.2	45.7	3.5	400	0.5	50	6.5	182
1SMBF5924B	9.1	41.2	4.0	500	0.5	50	7.0	164
1SMBF5925B	10	37.5	4.5	500	0.25	50	8.0	150
1SMBF5926B	11	34.1	5.5	550	0.25	50	8.4	136
1SMBF5927B	12	31.2	6.5	550	0.25	1.0	9.1	125
1SMBF5928B	13	28.8	7.0	550	0.25	1.0	9.9	115
1SMBF5929B	15	25.0	9.0	600	0.25	1.0	11.4	100
1SMBF5930B	16	23.4	10	600	0.25	1.0	12.2	93
1SMBF5931B	18	20.8	12	650	0.25	1.0	13.7	83
1SMBF5932B	20	18.7	14	650	0.25	1.0	15.2	75
1SMBF5933B	22	17.0	17.5	650	0.25	1.0	16.7	68
1SMBF5934B	24	15.6	19	700	0.25	1.0	18.2	62
1SMBF5935B	27	13.9	23	700	0.25	1.0	20.6	55
1SMBF5936B	30	12.5	26	750	0.25	1.0	22.8	50
1SMBF5937B	33	11.4	33	800	0.25	1.0	25.1	45
1SMBF5938B	36	10.4	38	850	0.25	1.0	27.4	41
1SMBF5939B	39	9.6	45	900	0.25	1.0	29.7	38
1SMBF5940B	43	8.7	53	950	0.25	1.0	32.7	34
1SMBF5941B	47	8.0	67	1000	0.25	1.0	35.8	31
1SMBF5942B	51	7.3	70	1100	0.25	1.0	38.8	29
1SMBF5943B	56	6.7	86	1300	0.25	1.0	42.6	26
1SMBF5944B	62	6.0	100	1500	0.25	1.0	47.1	24
1SMBF5945B	68	5.5	120	1700	0.25	1.0	51.7	22
1SMBF5946B	75	5.0	140	2000	0.25	1.0	56.0	20
1SMBF5947B	82	4.6	160	2500	0.25	1.0	62.2	18
1SMBF5948B	91	4.1	200	3000	0.25	1.0	69.2	16
1SMBF5949B	100	3.7	250	3100	0.25	1.0	76.0	15
1SMBF5950B	110	3.4	300	4000	0.25	1.0	83.6	13
1SMBF5951B	120	3.1	380	4500	0.25	1.0	91.2	12
1SMBF5952B	130	2.9	450	5000	0.25	1.0	98.8	11
1SMBF5953B	150	2.5	600	6000	0.25	1.0	114.0	10
1SMBF5954B	160	2.3	700	6500	0.25	1.0	121.6	9.0
1SMBF5955B	180	2.1	900	7000	0.25	1.0	136.8	8.0
1SMBF5956B	200	1.9	1200	8000	0.25	1.0	152.0	7.0
1SMBF5957B	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.