



Micro Commercial Components



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20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# SMBJ5913B THRU SMBJ5956B

## 1.5 Watt Surface Mount Silicon Zener Diodes

### Features

- Halogen free available upon request by adding suffix "-HF"
- Surface Mount Application
- 3.3 thru 200 Volt Voltage Range
- Low Inductance, Low Profile Mounting
- Glass Passivated Junction
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

### Mechanical Data

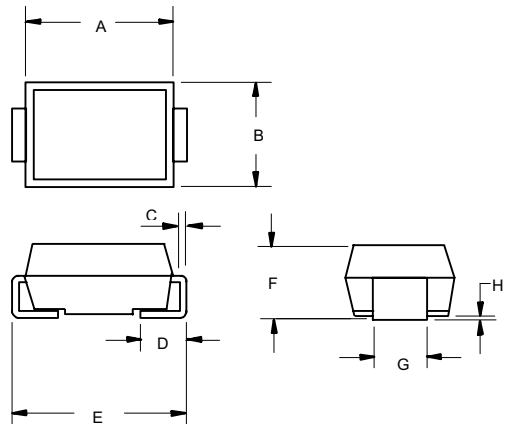
- CASE: JEDEC DO-214AA molded Surface Mountable
- Terminals solderable per MIL-STD-750, Method 2026
- Polarity is indicated by cathode band.
- Packaging: Standard 12mm Tape (see EIA 481)
- Maximum temperature for soldering: 260°C for 10 seconds.
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Ratings @ 25°C Unless Otherwise Specified

Output Current	I <sub>F</sub>	200mA	
Maximum Forward Voltage	V <sub>F</sub>	1.5V	(Note: 2)
Steady State Power Dissipation	P <sub>(AV)</sub>	1.5W	(Note: 3)
Operation And Storage Temperature	T <sub>J</sub> , T <sub>STG</sub>	-55°C to +150 °C	

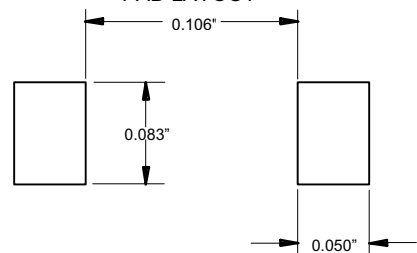
- NOTES:
1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
  2. Forward Current @ 200mA.
  3. Mounted on 5.0mm<sup>2</sup> (1oz thick) land areas.  
Lead temperature at T<sub>L</sub>=75°C

### DO-214AA (SMB) (LEAD FRAME)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.160	.185	4.06	4.70	
B	.130	.155	3.30	3.94	
C	.006	.012	0.15	0.31	
D	.030	.060	0.76	1.52	
E	.200	.220	5.08	5.59	
F	.079	.096	2.00	2.44	
G	.075	.087	1.91	2.21	
H	.002	.008	0.05	0.203	

### SUGGESTED SOLDER PAD LAYOUT



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ELECTRICAL CHARACTERISTICS(TL=30 centigrade unless otherwise noted) (VF=1.5Volts Max @IF=200mAdc for all types.

MCC PART NUMBER	ZENER VOLTAGE V <sub>Z</sub> (*)	TEST CURRENT I <sub>ZT</sub>	MAXIMUM DYNAMIC IMPEDANCE Z <sub>ZT</sub> @ I <sub>ZT</sub>	KNEE CURRENT I <sub>ZK</sub>	KNEE IMPEDANCE Z <sub>ZK</sub>	MAXIMUM REVERSE CURRENT I <sub>R</sub>	REVERSE VOLTAGE V <sub>R</sub>	DEVICE MARKING
	VOLTS	mA	OHMS	mA	OHMS	μA	VOLTS	
SMBJ5913B	3.3	113.6	10.0	1.0	500	100	1.0	913B
SMBJ5914B	3.6	104.2	9.0	1.0	500	75	1.0	914B
SMBJ5915B	3.9	96.1	7.5	1.0	500	25	1.0	915B
SMBJ5916B	4.3	87.2	6.0	1.0	500	5.0	1.0	916B
SMBJ5917B	4.7	79.8	5.0	1.0	500	5.0	1.5	917B
SMBJ5918B	5.1	73.5	4.0	1.0	350	5.0	2.0	918B
SMBJ5919B	5.6	66.9	2.0	1.0	250	5.0	3.0	919B
SMBJ5920B	6.2	60.5	2.0	1.0	200	5.0	4.0	920B
SMBJ5921B	6.8	55.1	2.5	1.0	200	5.0	5.2	921B
SMBJ5922B	7.5	50.0	3.0	0.5	400	5.0	6.0	922B
SMBJ5923B	8.2	45.7	3.5	0.5	400	5.0	6.5	923B
SMBJ5924B	9.1	41.2	4.0	0.5	500	5.0	7.0	924B
SMBJ5925B	10	37.5	4.5	0.25	500	5.0	8.0	925B
SMBJ5926B	11	34.1	5.5	0.25	550	1.0	8.4	926B
SMBJ5927B	12	31.2	6.5	0.25	550	1.0	9.1	927B
SMBJ5928B	13	28.8	7.0	0.25	550	1.0	9.9	928B
SMBJ5929B	15	25.0	9.0	0.25	600	1.0	11.4	929B
SMBJ5930B	16	23.4	10.0	0.25	600	1.0	12.2	930B
SMBJ5931B	18	20.8	12.0	0.25	650	1.0	13.7	931B
SMBJ5932B	20	18.7	14.0	0.25	650	1.0	15.2	932B
SMBJ5933B	22	17.0	17.5	0.25	650	1.0	16.7	933B
SMBJ5934B	24	15.6	19.0	0.25	700	1.0	18.2	934B
SMBJ5935B	27	13.9	23.0	0.25	700	1.0	20.6	935B
SMBJ5936B	30	12.5	28.0	0.25	750	1.0	22.8	936B
SMBJ5937B	33	11.4	33.0	0.25	800	1.0	25.1	937B
SMBJ5938B	36	10.4	38.0	0.25	850	1.0	27.4	938B
SMBJ5939B	39	9.6	45.0	0.25	900	1.0	29.7	939B
SMBJ5940B	43	8.7	53.0	0.25	950	1.0	32.7	940B
SMBJ5941B	47	8.0	67.0	0.25	1000	1.0	35.8	941B
SMBJ5942B	51	7.3	70.0	0.25	1100	1.0	38.8	942B
SMBJ5943B	56	6.7	86.0	0.25	1300	1.0	42.6	943B
SMBJ5944B	62	6.0	100	0.25	1500	1.0	47.1	944B
SMBJ5945B	68	5.5	120	0.25	1700	1.0	51.2	945B
SMBJ5946B	75	5.0	140	0.25	2000	1.0	56.0	946B
SMBJ5947B	82	4.6	160	0.25	2500	1.0	62.2	947B
SMBJ5948B	91	4.1	200	0.25	3000	1.0	69.2	948B
SMBJ5949B	100	3.7	250	0.25	3100	1.0	76.0	949B
SMBJ5950B	110	3.4	300	0.25	4000	1.0	83.6	950B
SMBJ5951B	120	3.1	380	0.25	4500	1.0	91.2	951B
SMBJ5952B	130	2.9	450	0.25	5000	1.0	98.8	952B
SMBJ5953B	150	2.5	600	0.25	6000	1.0	114	953B
SMBJ5954B	160	2.3	700	0.25	6500	1.0	121.6	954B
SMBJ5955B	180	2.1	900	0.25	7000	1.0	136.8	955B
SMBJ5956B	200	1.9	1200	0.25	8000	1.0	152	956B

\* TOLERANCE AND VOLTAGE DESIGNATION Tolerance designation - The type numbers listed indicate a tolerance of +/-5%

RATING AND CHARACTERISTICS CURVES

SMBJ5913B THRU SMBJ5956B

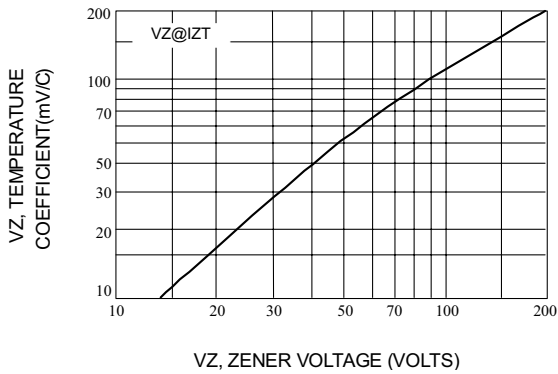


Fig. 1-ZENER VOLTAGE-10 TO 200 VOLTS

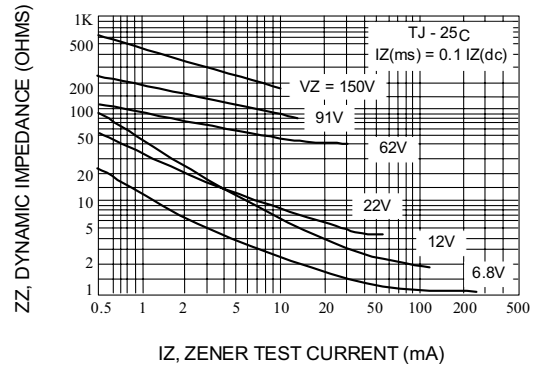


Fig. 2-EFFECT OF ZENER CURRENT

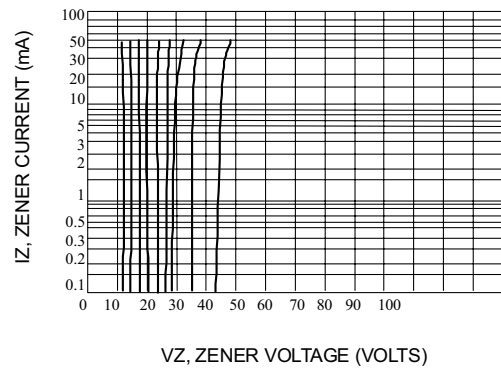
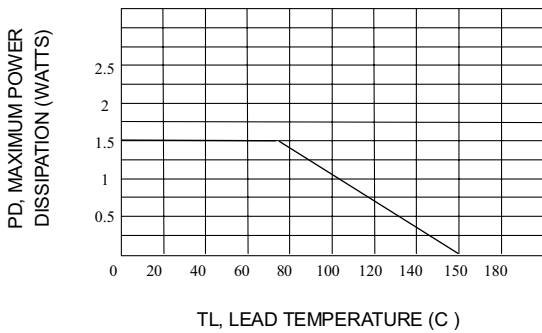
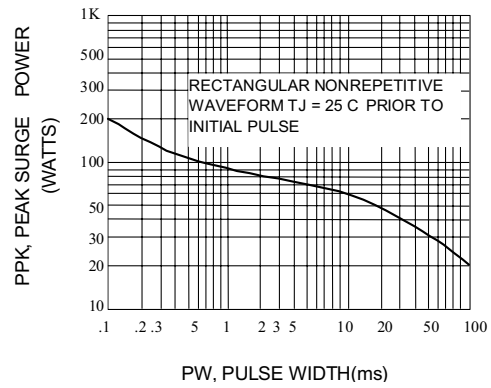
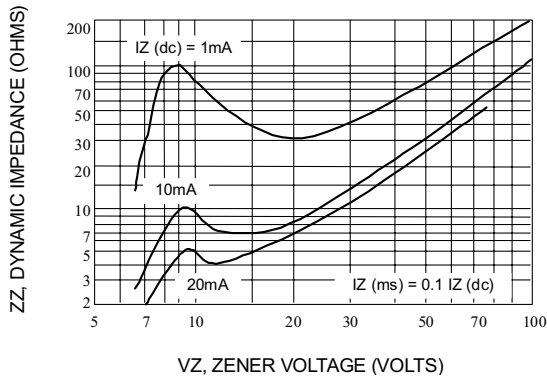


Fig. 5-STEADY STATE POWER DERATING

Fig. 6-Z = 12 THRU 40 VOLTS

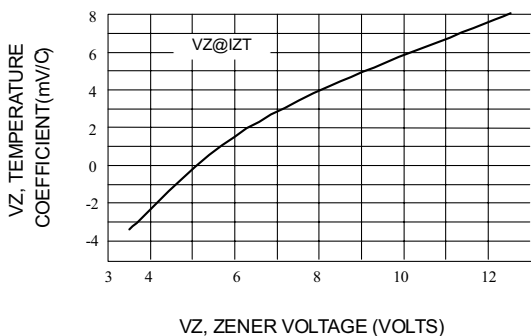


Fig. 7-ZENER VOLTAGE-TO 12 VOLTS



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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