



**ZBMCC**

ZIBO MICRO COMMERCIAL  
COMPONENTS CORP.



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# 3SMAJ5913B THRU 3SMAJ5956B

## 3.0 Watt Surface Mount Silicon Zener Diodes

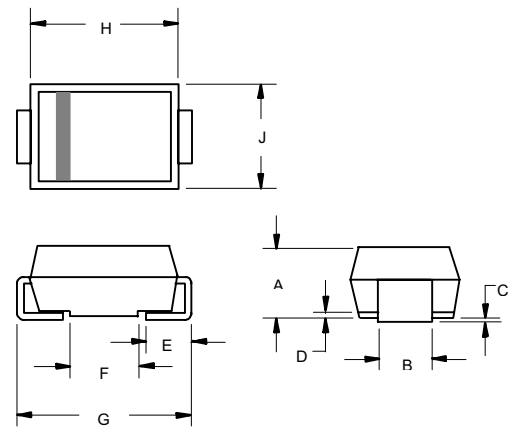
### Features

- 3.3thru 200 Volt Voltage Range
- Low Inductance, Low Profile Mounting
- Glass Passivated Junction
- High specified maximum current(I<sub>ZM</sub>)when adequately heat sinking
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"
- Surface Mount Application

### Mechanical Data

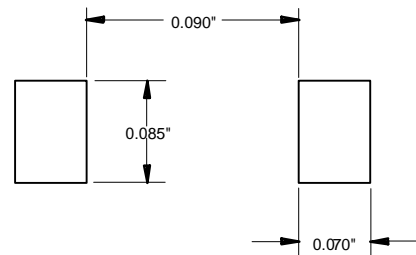
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Terminals solderable per MIL-STD-750, Method 2026
- Polarity is indicated by cathode band.
- Packaging: Standard 12mm Tape (see EIA 481)
- Maximum temperature for soldering: 260 °C for 10 seconds.

### DO-214AC (SMA) (LEAD FRAME)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.079	.096	2.00	2.44	
B	.050	.064	1.27	1.63	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.189	.220	4.80	5.59	
H	.157	.181	4.00	4.60	
J	.090	.115	2.25	2.92	

#### SUGGESTED SOLDER PAD LAYOUT



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

Maximum Forward Voltage	V <sub>F</sub>	1.5V	(Note: 2)
Steady State Power Dissipation	P <sub>d</sub>	3.0W	(Note: 3)
Operation and Storage Temperature	T <sub>J</sub> , T <sub>STG</sub>	-55°C to +150°C	
Thermal Resistance Junction to Lead	R <sub>thJL</sub>	25°C/W	
Thermal Resistance Junction to Ambient	R <sub>thJA</sub>	135°C/W	

- Note:
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  
Lead temperature at T<sub>A</sub>=15°C

### 3SMAJ5913B thru 3SMAJ5956B

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ELECTRICAL CHARACTERISTICS ( $T_L=30C$  unless otherwise noted) ( $V_F=1.5$ Volts Max @  $I_F=200$ mA for all types.)

MCC PART NUMBER	ZENER VOLTAGE $V_Z (1)$	TEST CURRENT $I_{ZT}$	MAXIMUM DYNAMIC IMPEDANCE $Z_{ZT} @ I_{ZT}$	KNEE CURRENT $I_{ZK}$	KNEE IMPEDANCE $Z_{ZK}$	MAXIMUM REVERSE CURRENT $I_R$	REVERSE VOLTAGE $V_R$	Maximum DC Zener Current $I_{ZM}$	DEVICE MARKING
	VOLTS	mA	OHMS	mA	OHMS	$\mu$ A	VOLTS	mA	
3SMAJ5913B	3.3	113.6	10	1	500	100	1	908	H13B
3SMAJ5914B	3.6	104.2	9	1	500	75	1	832	H14B
3SMAJ5915B	3.9	96.1	7.5	1	500	25	1	768	H15B
3SMAJ5916B	4.3	87.2	6	1	500	5	1	696	H16B
3SMAJ5917B	4.7	79.8	5	1	500	5	1.5	638	H17B
3SMAJ5918B	5.1	73.5	4	1	350	5	2	588	H18B
3SMAJ5919B	5.6	66.9	2	1	250	5	3	534	H19B
3SMAJ5920B	6.2	60.5	2	1	200	5	4	482	H20B
3SMAJ5921B	6.8	55.1	2.5	1	200	5	5.2	440	H21B
3SMAJ5922B	7.5	50	3	0.5	400	5	6	400	H22B
3SMAJ5923B	8.2	45.7	3.5	0.5	400	5	6.5	364	H23B
3SMAJ5924B	9.1	41.2	4	0.5	500	5	7	328	H24B
3SMAJ5925B	10	37.5	4.5	0.25	500	5	8	300	H25B
3SMAJ5926B	11	34.1	5.5	0.25	550	1	8.4	272	H26B
3SMAJ5927B	12	31.2	6.5	0.25	550	1	9.1	250	H27B
3SMAJ5928B	13	28.8	7	0.25	550	1	9.9	230	H28B
3SMAJ5929B	15	25	9	0.25	600	1	11.4	200	H29B
3SMAJ5930B	16	23.4	10	0.25	600	1	12.2	186	H30B
3SMAJ5931B	18	20.8	12	0.25	650	1	13.7	166	H31B
3SMAJ5932B	20	18.7	14	0.25	650	1	15.2	150	H32B
3SMAJ5933B	22	17	17.5	0.25	650	1	16.7	136	H33B
3SMAJ5934B	24	15.6	19	0.25	700	1	18.2	124	H34B
3SMAJ5935B	27	13.9	23	0.25	700	1	20.6	110	H35B
3SMAJ5936B	30	12.5	28	0.25	750	1	22.8	100	H36B
3SMAJ5937B	33	11.4	33	0.25	800	1	25.1	90	H37B
3SMAJ5938B	36	10.4	38	0.25	850	1	27.4	82	H38B
3SMAJ5939B	39	9.6	45	0.25	900	1	29.7	76	H39B
3SMAJ5940B	43	8.7	53	0.25	950	1	32.7	68	H40B
3SMAJ5941B	47	8	67	0.25	1000	1	35.8	62	H41B
3SMAJ5942B	51	7.3	70	0.25	1100	1	38.8	58	H42B
3SMAJ5943B	56	6.7	86	0.25	1300	1	42.6	52	H43B
3SMAJ5944B	62	6	100	0.25	1500	1	47.1	48	H44B
3SMAJ5945B	68	5.5	120	0.25	1700	1	51.7	44	H45B
3SMAJ5946B	75	5	140	0.25	2000	1	56	40	H46B
3SMAJ5947B	82	4.6	160	0.25	2500	1	62.2	36	H47B
3SMAJ5948B	91	4.1	200	0.25	3000	1	69.2	32	H48B
3SMAJ5949B	100	3.7	250	0.25	3100	1	76	30	H49B
3SMAJ5950B	110	3.4	300	0.25	4000	1	83.6	26	H50B
3SMAJ5951B	120	3.1	380	0.25	4500	1	91.2	24	H51B
3SMAJ5952B	130	2.9	450	0.25	5000	1	98.8	22	H52B
3SMAJ5953B	150	2.5	600	0.25	6000	1	114	20	H53B
3SMAJ5954B	160	2.3	700	0.25	6500	1	121.6	18	H54B
3SMAJ5955B	180	2.1	900	0.25	7000	1	136.8	16	H55B
3SMAJ5956B	200	1.9	1200	0.25	8000	1	152	14	H56B

Note 1: TOLERANCE AND VOLTAGE DESIGNATION - The type numbers listed indicate a tolerance of +/- 5%.

**RATING AND CHARACTERISTICS CURVES**  
**3SMAJ5913B thru 3SMAJ5956B**

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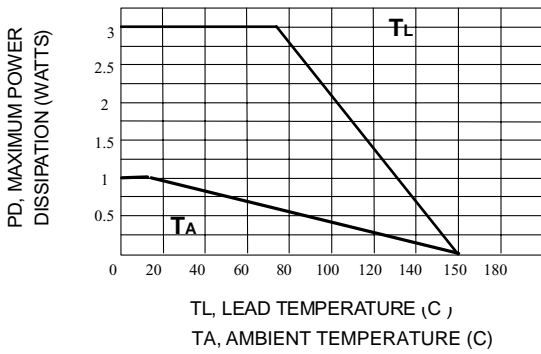


Fig. 1-STEADY STATE POWER DERATING

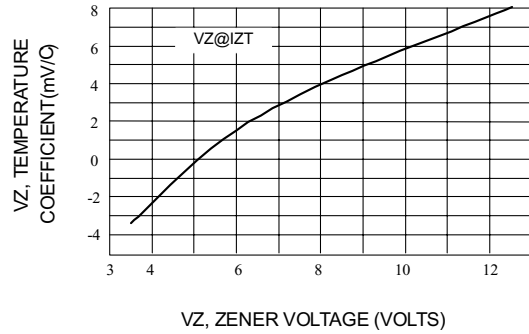


Fig. 2-ZENER VOLTAGE- 3 TO 12 VOLTS

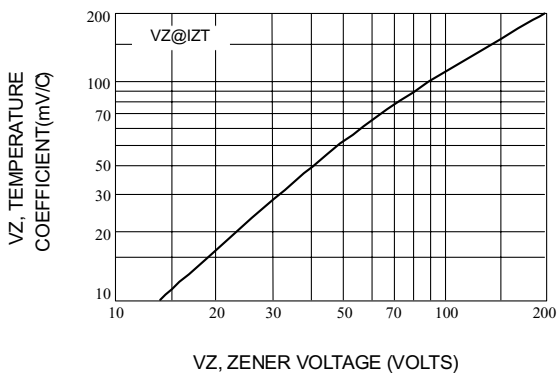


Fig. 3-ZENER VOLTAGE-10 TO 200 VOLTS

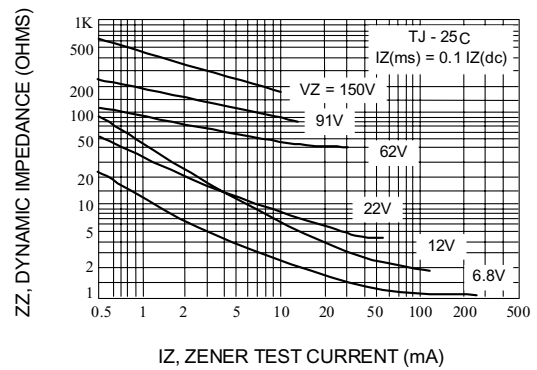


Fig. 4-EFFECT OF ZENER CURRENT

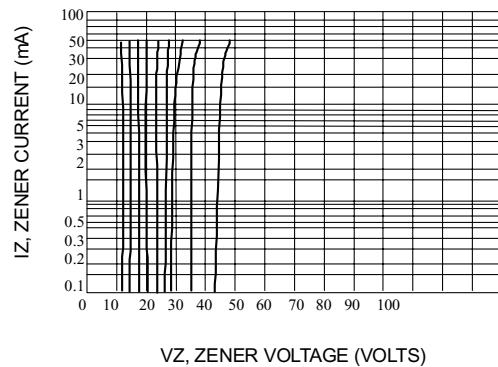
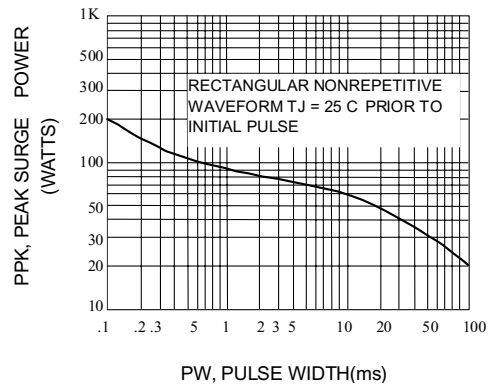
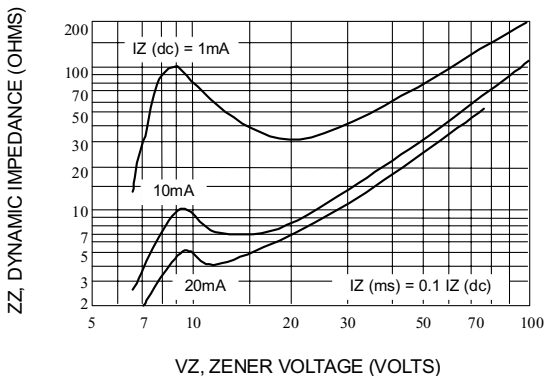


Fig. 7-VZ = 12 THRU 40 VOLTS



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**Ordering Information :**

Device	Packing
Part Number-TP	Tape&Reel: 7.5Kpcs/Reel

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

**\*\*\*LIFE SUPPORT\*\*\***

ZBMCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of ZiBo Micro Commercial Components Corp.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. ZiBo Micro Commercial Components Corp. is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. ZBMCC strongly encourages customers to purchase ZBMCC parts either directly from ZBMCC or from Authorized ZBMCC Distributors who are listed by country on our web page cited below. Products customers buy either from ZBMCC directly or from Authorized ZBMCC Distributors are genuine parts, have full traceability, meet ZBMCC's quality standards for handling and storage. ZBMCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. ZBMCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.