



Micro Commercial Components™



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

# SMAJ5913B THRU SMAJ5956B

## Features

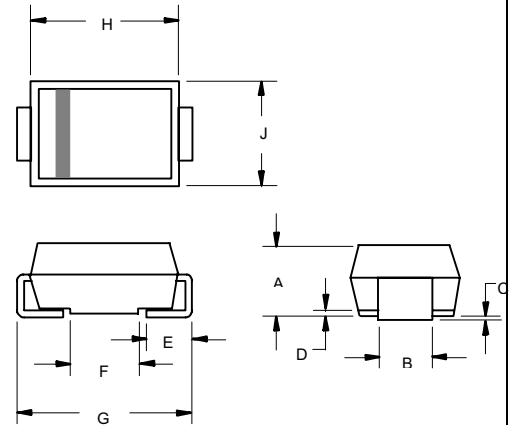
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Low Zener Impedance
- Low Regulation Factor
- $V_z$  - tolerance:  $\pm 5\%$
- For Surface Mount Applications
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

- Junction Temperature: 150°C
- Storage Temperature: -65°C to +175°C
- 1.5 Watt DC Power Dissipation ( $T_L \leq 75^\circ\text{C}$ )
- Thermal Resistance Junction to Lead: 50°C/W
- Thermal Resistance Junction to Ambient: 83°C/W
- Forward Voltage @ 200mA: 1.5 Volts

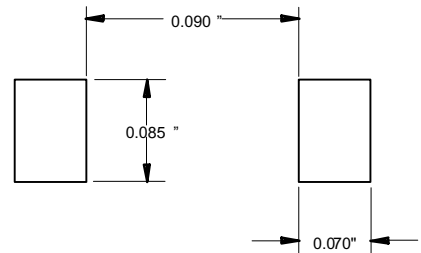
# 1.5 Watt Zener Diode 3.3 to 200 Volts

## 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



Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

# SMAJ5913B THRU SMAJ5956B



Micro Commercial Components™

## ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	ZENER VOLTAGE VZ (1)	TEST CURRENT IZT	MAXIMUM DYNAMIC IMPEDANCE ZZT @IZT	KNEE CURRENT IZK	KNEE IMPEDANCE ZZK	MAXIMUM REVERSE CURRENT IR	REVERSE VOLTAGE VR	DEVICE MARKING
	VOLTS	mA	OHMS	mA	OHMS	µA	VOLTS	
SMAJ5913B	3.3	113.6	10	1	500	100	1	13B
SMAJ5914B	3.6	104.2	9	1	500	75	1	14B
SMAJ5915B	3.9	96.1	7.5	1	500	25	1	15B
SMAJ5916B	4.3	87.2	6	1	500	5.0	1	16B
SMAJ5917B	4.7	79.8	5	1	500	5.0	1.5	17B
SMAJ5918B	5.1	73.5	4	1	350	5.0	2	18B
SMAJ5919B	5.6	66.9	2	1	250	5.0	3	19B
SMAJ5920B	6.2	60.5	2	1	200	5.0	4	20B
SMAJ5921B	6.8	55.1	2.5	1	200	5.0	5.2	21B
SMAJ5922B	7.5	50	3	0.5	400	5.0	6	22B
SMAJ5923B	8.2	45.7	3.5	0.5	400	5.0	6.5	23B
SMAJ5924B	9.1	41.2	4	0.25	500	5.0	7	24B
SMAJ5925B	10	37.5	4.5	0.25	500	5.0	8	25B
SMAJ5926B	11	34.1	5.5	0.25	550	1.0	8.4	26B
SMAJ5927B	12	31.2	6.5	0.25	550	1.0	9.1	27B
SMAJ5928B	13	28.8	7	0.25	550	1.0	9.9	28B
SMAJ5929B	15	25	9	0.25	600	1.0	11.4	29B
SMAJ5930B	16	23.4	10	0.25	600	1.0	12.2	30B
SMAJ5931B	18	20.8	12	0.25	650	1.0	13.7	31B
SMAJ5932B	20	18.7	14	0.25	650	1.0	15.2	32B
SMAJ5933B	22	17	17.5	0.25	650	1.0	16.7	33B
SMAJ5934B	24	15.6	19	0.25	700	1.0	18.2	34B
SMAJ5935B	27	13.9	23	0.25	700	1.0	20.6	35B
SMAJ5936B	30	12.5	28	0.25	750	1.0	22.8	36B
SMAJ5937B	33	11.4	33	0.25	800	1.0	25.1	37B
SMAJ5938B	36	10.4	38	0.25	850	1.0	27.4	38B
SMAJ5939B	39	9.6	45	0.25	900	1.0	29.7	39B
SMAJ5940B	43	8.7	53	0.25	950	1.0	32.7	40B
SMAJ5941B	47	8	67	0.25	1000	1.0	35.8	41B
SMAJ5942B	51	7.3	70	0.25	1100	1.0	38.8	42B
SMAJ5943B	56	6.7	86	0.25	1300	1.0	42.6	43B
SMAJ5944B	62	6	100	0.25	1500	1.0	47.1	44B
SMAJ5945B	68	5.5	120	0.25	1700	1.0	51.7	45B
SMAJ5946B	75	5	140	0.25	2000	1.0	56	46B
SMAJ5947B	82	4.6	160	0.25	2500	1.0	62.2	47B
SMAJ5948B	91	4.1	200	0.25	3000	1.0	69.2	48B
SMAJ5949B	100	3.7	250	0.25	3100	1.0	76	49B
SMAJ5950B	110	3.4	300	0.25	4000	1.0	83.6	50B
SMAJ5951B	120	3.1	380	0.25	4500	1.0	91.2	51B
SMAJ5952B	130	2.9	450	0.25	5000	1.0	98.8	52B
SMAJ5953B	150	2.5	600	0.25	6000	1.0	114	53B
SMAJ5954B	160	2.3	700	0.25	6500	1.0	121.6	54B
SMAJ5955B	180	2.1	900	0.25	7000	1.0	136.8	55B
SMAJ5956B	200	1.9	1200	0.25	8000	1.0	152	56B

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature(T<sub>L</sub>) at 30°C, 9.5mm(3/8) from the diode body.

**Characteristics** ( $T_j=25^{\circ}\text{C}$  unless otherwise specified)

Symbol	Parameter
$V_Z$	Reverse zener voltage @ $I_{ZT}$
$I_{ZT}$	Reverse current
$Z_{ZT}$	Maximum zener impedance @ $I_{ZT}$
$I_{ZK}$	Reverse current
$Z_{ZK}$	Maximum zener impedance @ $I_{ZK}$
$I_R$	Reverse leakage current @ $V_R$
$V_R$	Breakdown voltage
$I_F$	Forward current
$V_F$	Forward voltage @ $I_F$

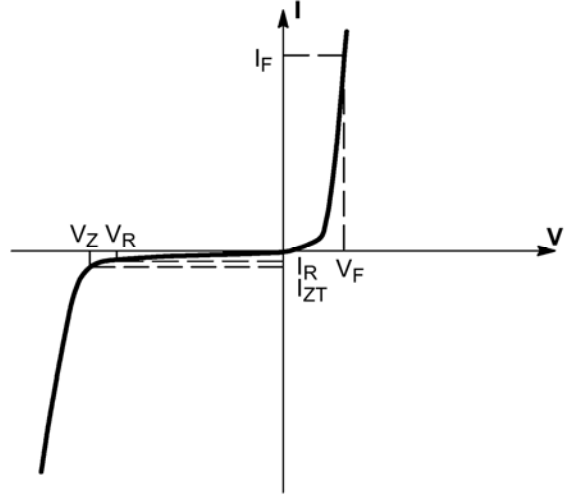


Figure 1. Zener voltage regulator

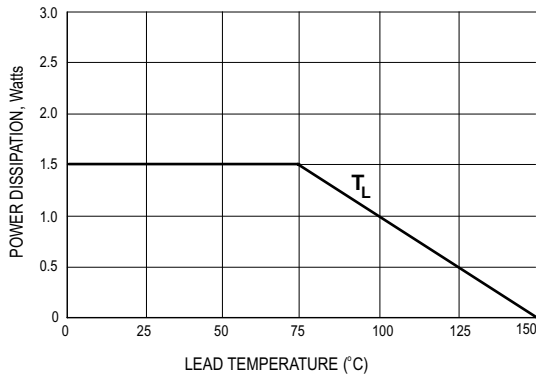


Figure 2. Steady state power derating

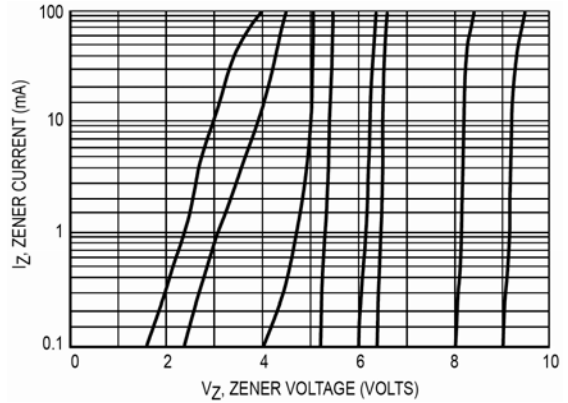


Figure 3.  $V_Z$  - 3.3 thru 10 volts

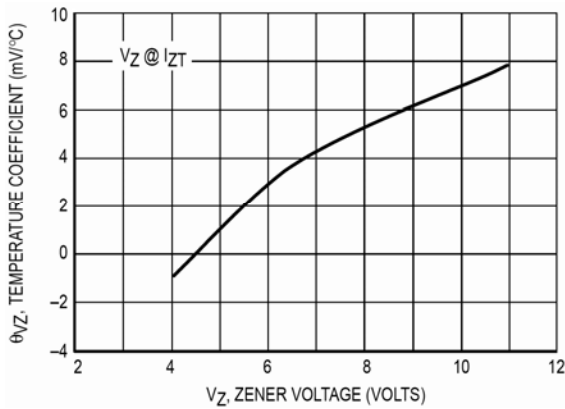


Figure 4. Zener voltage - 3.3 to 12 volts

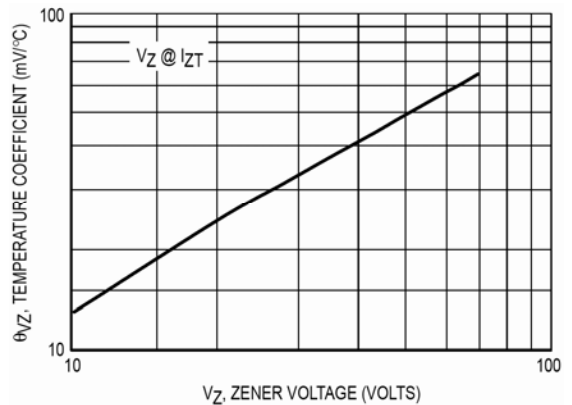


Figure 5. Zener voltage - 14 to 43 volts

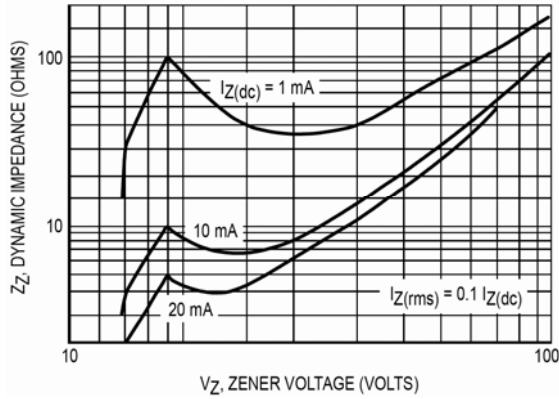


Figure 6. Effect of zener voltage

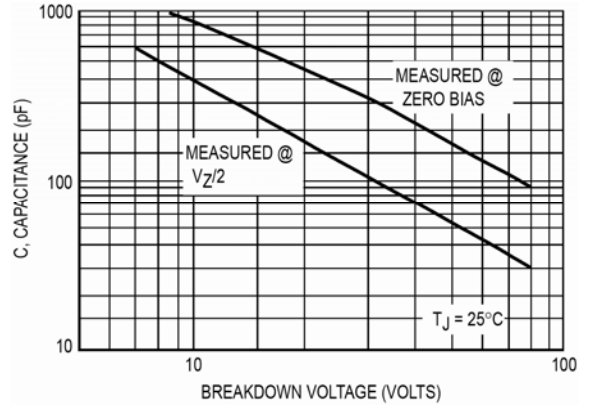


Figure 7. Capacitance curve

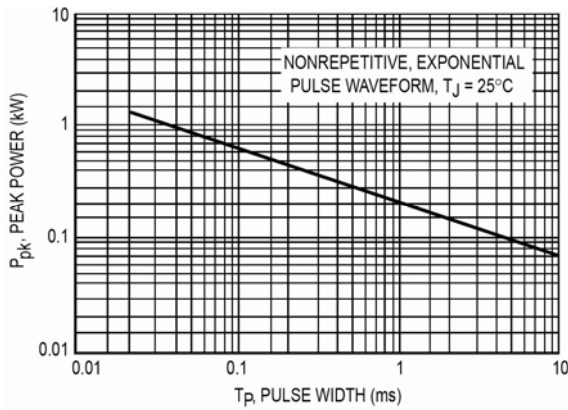


Figure 8. Typical pulse rating curve

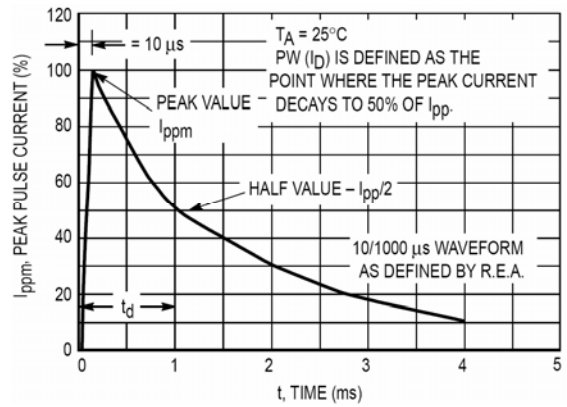


Figure 9. Pulse waveform

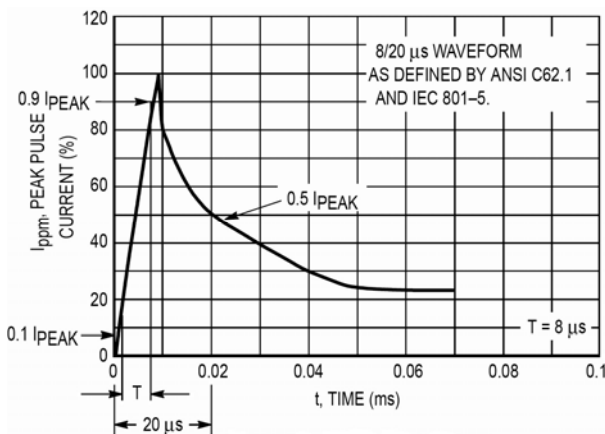


Figure 10. Pulse waveform



Micro Commercial Components <sup>TM</sup>

### Ordering Information :

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

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

#### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

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

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

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

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC 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.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.