

# SMAJ5918B3~SMAJ5956B3

## ZENER DIODES

<b>VOLTAGE</b>	<b>5.1 to 200 Volt</b>	<b>POWER</b>	<b>3.0 Watt</b>
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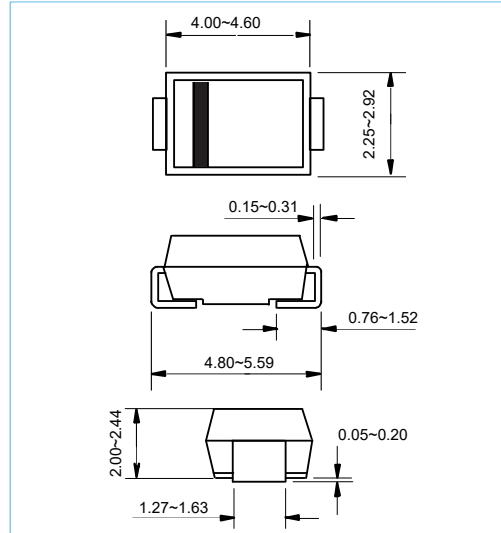
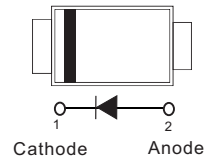
**SMA** Unit:mm

### FEATURES

- Flat Handling Surface for Accurate Placement
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- Low Profile Package
- Low Zener Impedance
- Lead free in compliance with EU RoHS

### MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 200\text{mA}$	$V_F$	1.5	V
Power Dissipation(Note 1)	$P_d$	3.0	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	42	°C/W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~+150	°C

#### NOTES :

1. 1 in square copper pad, FR-4 board.

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### 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	
SMAJ5918B3	5.1	73.5	4	1	350	5.0	2	H18B
SMAJ5919B3	5.6	66.9	2	1	250	5.0	3	H19B
SMAJ5920B3	6.2	60.5	2	1	200	5.0	4	H20B
SMAJ5921B3	6.8	55.1	2.5	1	200	5.0	5.2	H21B
SMAJ5922B3	7.5	50	3	0.5	400	5.0	6	H22B
SMAJ5923B3	8.2	45.7	3.5	0.5	400	5.0	6.5	H23B
SMAJ5924B3	9.1	41.2	4	0.25	500	5.0	7	H24B
SMAJ5925B3	10	37.5	4.5	0.25	500	5.0	8	H25B
SMAJ5926B3	11	34.1	5.5	0.25	550	1.0	8.4	H26B
SMAJ5927B3	12	31.2	6.5	0.25	550	1.0	9.1	H27B
SMAJ5928B3	13	28.8	7	0.25	550	1.0	9.9	H28B
SMAJ5929B3	15	25	9	0.25	600	1.0	11.4	H29B
SMAJ5930B3	16	23.4	10	0.25	600	1.0	12.2	H30B
SMAJ5931B3	18	20.8	12	0.25	650	1.0	13.7	H31B
SMAJ5932B3	20	18.7	14	0.25	650	1.0	15.2	H32B
SMAJ5933B3	22	17	17.5	0.25	650	1.0	16.7	H33B
SMAJ5934B3	24	15.6	19	0.25	700	1.0	18.2	H34B
SMAJ5935B3	27	13.9	23	0.25	700	1.0	20.6	H35B
SMAJ5936B3	30	12.5	28	0.25	750	1.0	22.8	H36B
SMAJ5937B3	33	11.4	33	0.25	800	1.0	25.1	H37B
SMAJ5938B3	36	10.4	38	0.25	850	1.0	27.4	H38B
SMAJ5939B3	39	9.6	45	0.25	900	1.0	29.7	H39B
SMAJ5940B3	43	8.7	53	0.25	950	1.0	32.7	H40B
SMAJ5941B3	47	8	67	0.25	1000	1.0	35.8	H41B
SMAJ5942B3	51	7.3	70	0.25	1100	1.0	38.8	H42B
SMAJ5943B3	56	6.7	86	0.25	1300	1.0	42.6	H43B
SMAJ5944B3	62	6	100	0.25	1500	1.0	47.1	H44B
SMAJ5945B3	68	5.5	120	0.25	1700	1.0	51.7	H45B
SMAJ5946B3	75	5	140	0.25	2000	1.0	56	H46B
SMAJ5947B3	82	4.6	160	0.25	2500	1.0	62.2	H47B
SMAJ5948B3	91	4.1	200	0.25	3000	1.0	69.2	H48B
SMAJ5949B3	100	3.7	250	0.25	3100	1.0	76	H49B
SMAJ5950B3	110	3.4	300	0.25	4000	1.0	83.6	H50B
SMAJ5951B3	120	3.1	380	0.25	4500	1.0	91.2	H51B
SMAJ5952B3	130	2.9	450	0.25	5000	1.0	98.8	H52B
SMAJ5953B3	150	2.5	600	0.25	6000	1.0	114	H53B
SMAJ5954B3	160	2.3	700	0.25	6500	1.0	121.6	H54B
SMAJ5955B3	180	2.1	900	0.25	7000	1.0	136.8	H55B
SMAJ5956B3	200	1.9	1200	0.25	8000	1.0	152	H56B

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

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## RATING AND CHARACTERISTIC CURVES

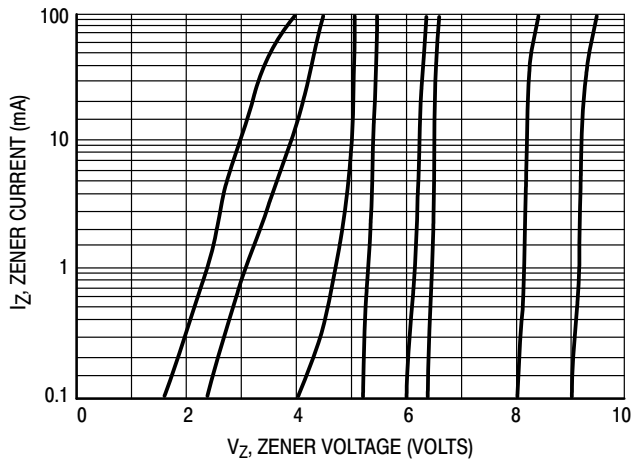


Figure 1.  $V_Z$  – 5.1 thru 10 Volts

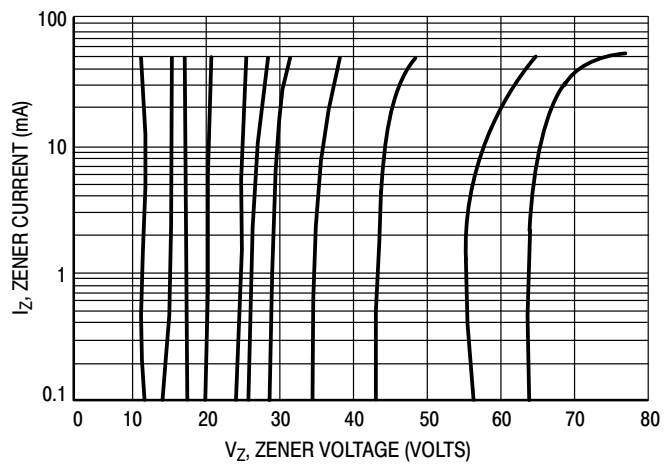


Figure 2.  $V_Z = 12$  thru 68 Volts

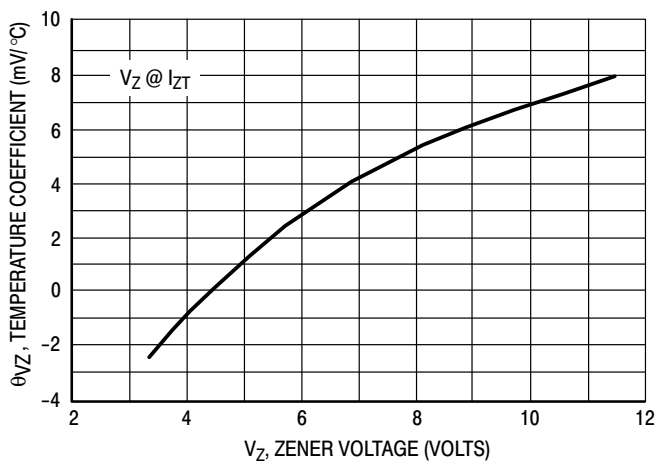


Figure 3. Zener Voltage – 5.1 to 12 Volts

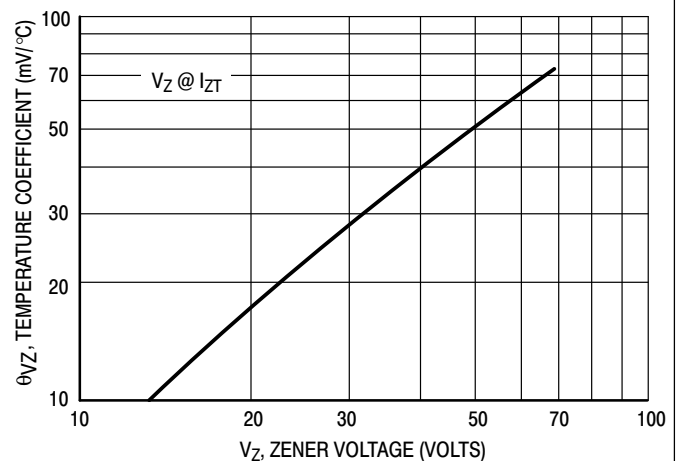


Figure 4. Zener Voltage – 12 to 68 Volts

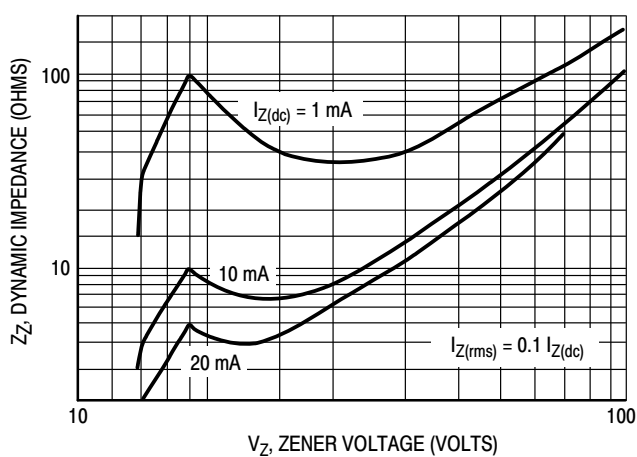


Figure 5. Effect of Zener Voltage

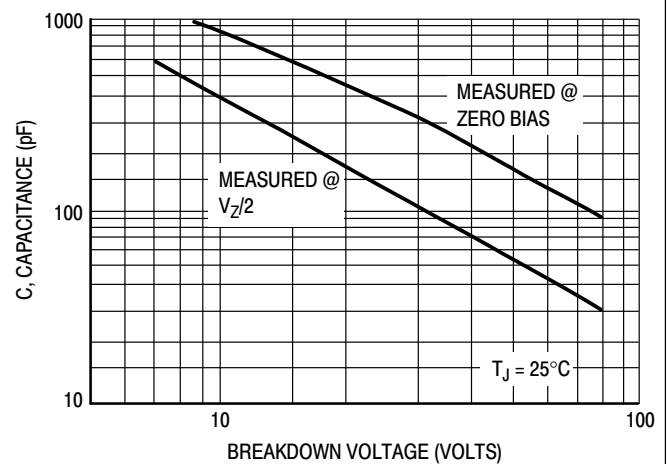


Figure 6. Capacitance Curve

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## RATING AND CHARACTERISTIC CURVES

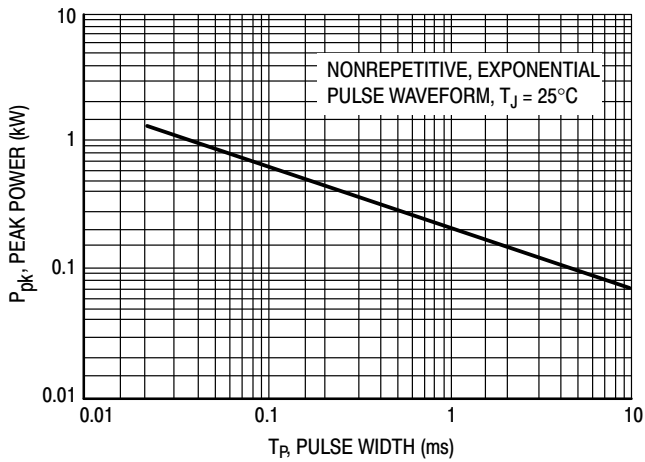


Figure 7. Typical Pulse Rating Curve

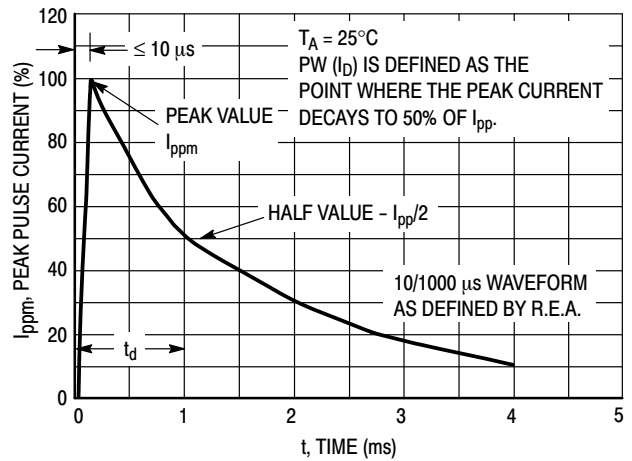


Figure 8. Pulse Waveform

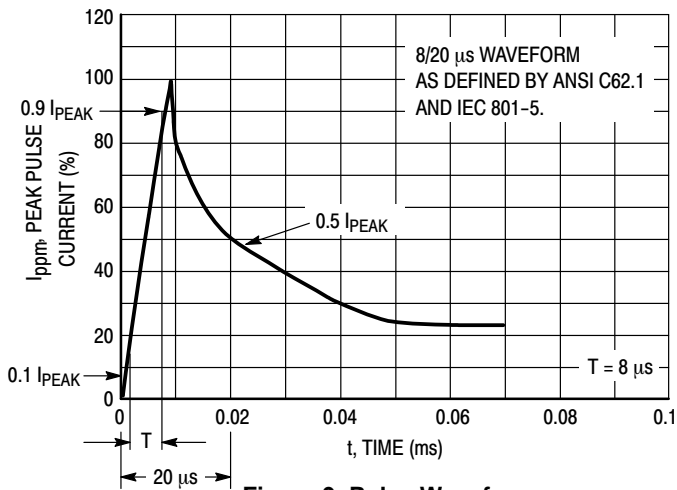


Figure 9. Pulse Waveform

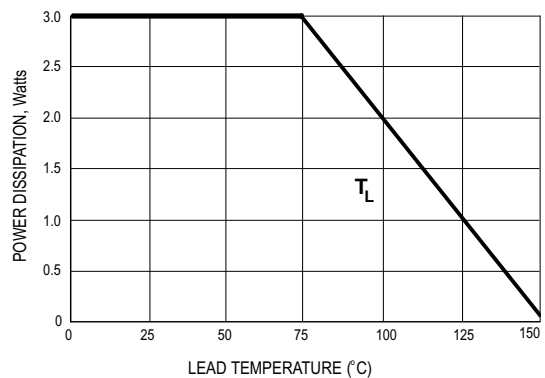


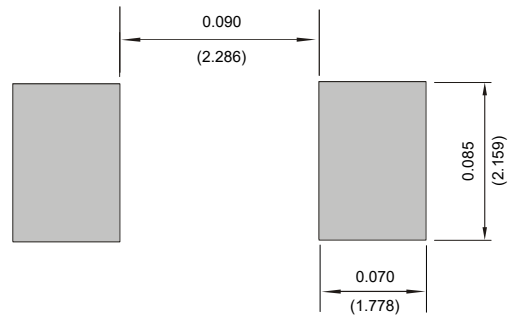
Figure 10. Steady state power derating

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## MOUNTING PAD LAYOUT

### SMA / DO-214AC

Unit:Inch(mm)



## ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
SMAJ5918B3~SMAJ5956B3	SMA	13 Inch	5000