

SMAJ5918B~SMAJ5956B

ZENER DIODES

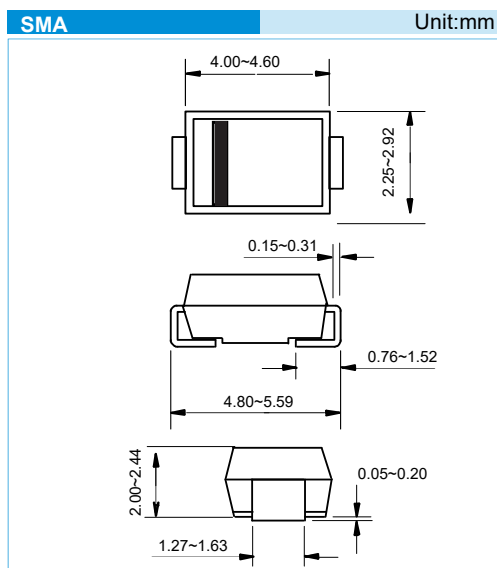
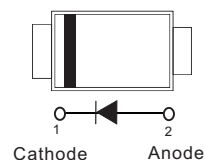
VOLTAGE 5.1 to 200 Volt **POWER** 1.5 Watt

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	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83	°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	
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_L) at 30°C, 9.5mm(3/8) from the diode body.

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RATING AND CHARACTERISTIC CURVES

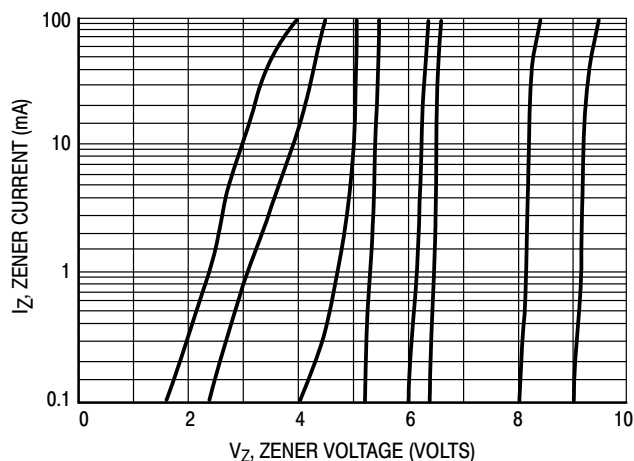


Figure 1. V_Z – 5.1 thru 10 Volts

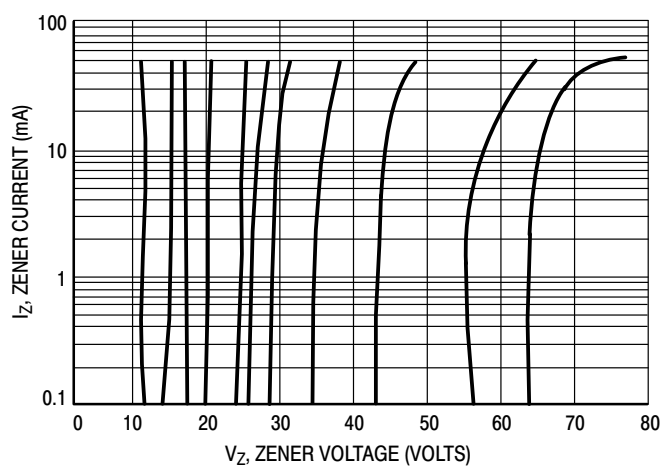


Figure 2. V_Z = 12 thru 68 Volts

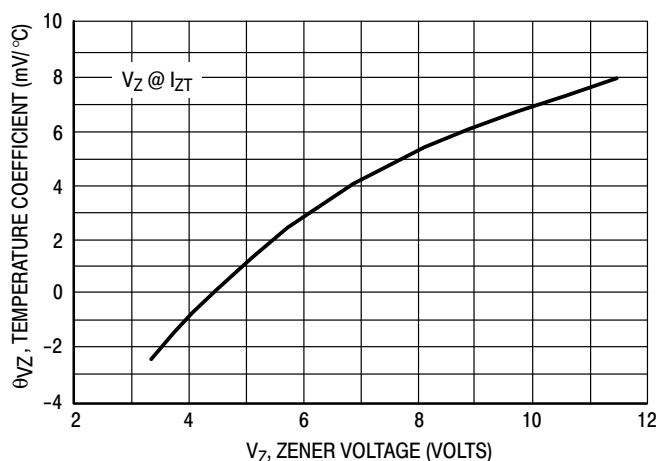


Figure 3. Zener Voltage – 5.1 to 12 Volts

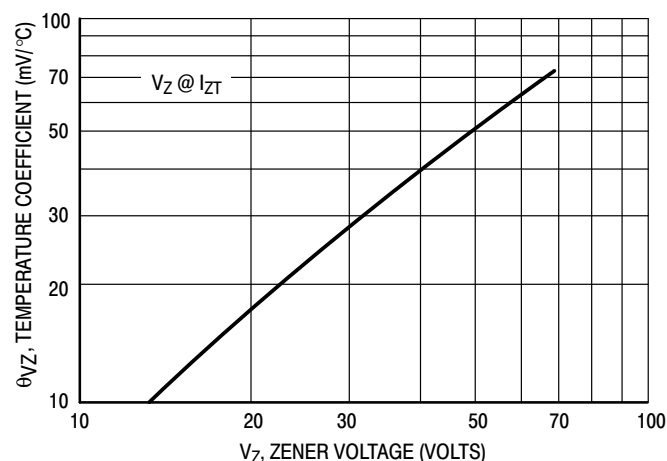


Figure 4. Zener Voltage – 12 to 68 Volts

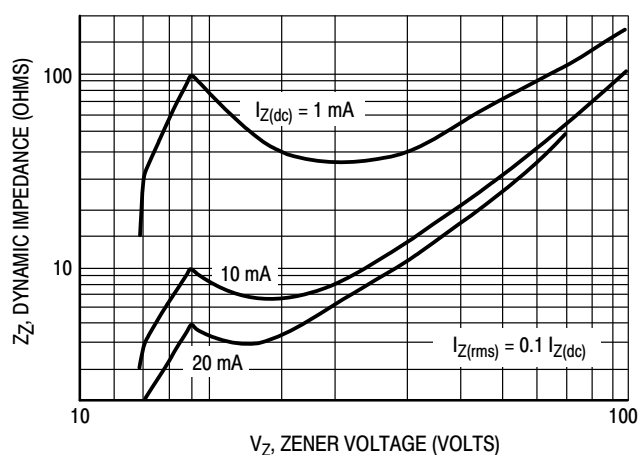


Figure 5. Effect of Zener Voltage

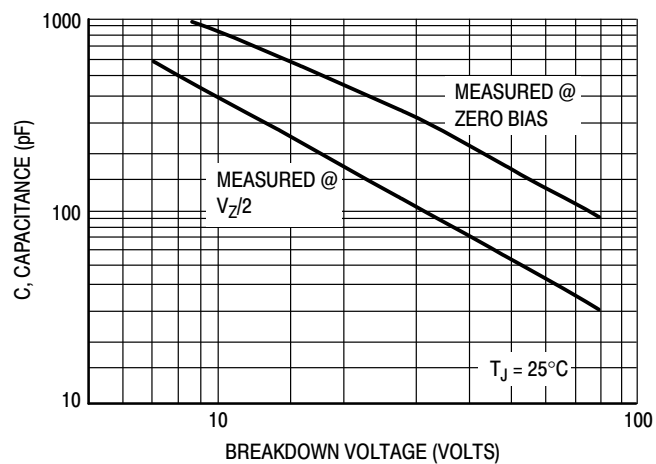


Figure 6. Capacitance Curve

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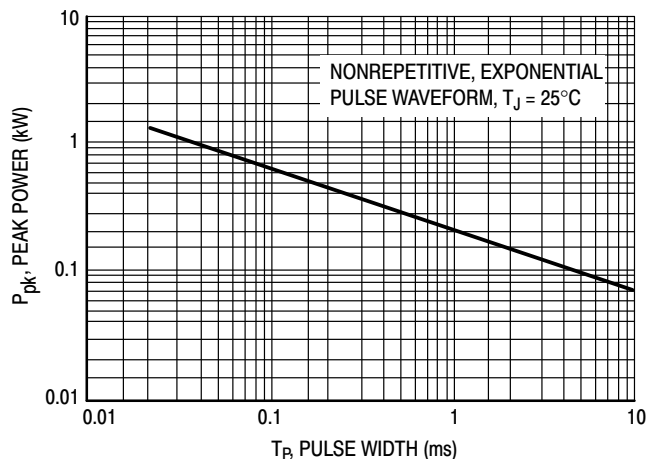


Figure 7. Typical Pulse Rating Curve

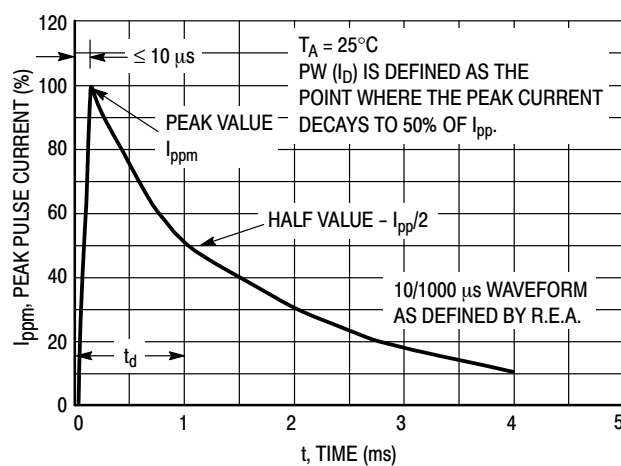


Figure 8. Pulse Waveform

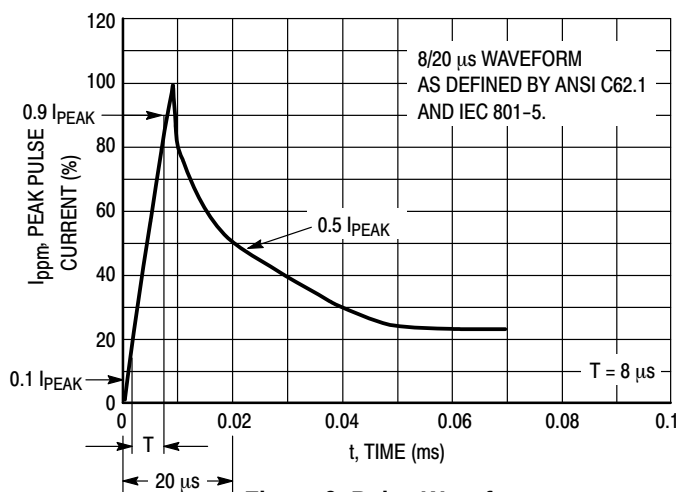


Figure 9. Pulse Waveform

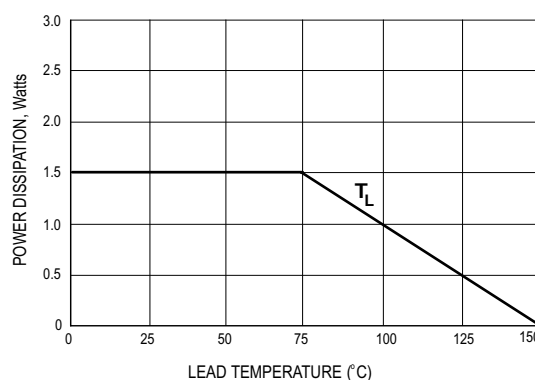


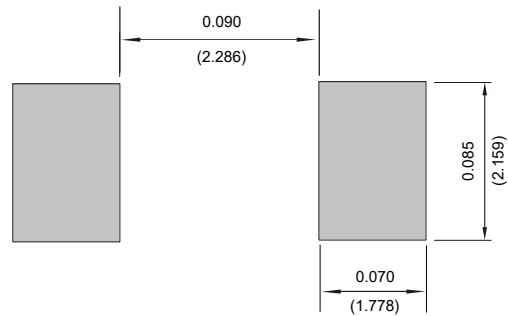
Figure 10. Steady state power derating

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MOUNTING PAD LAYOUT

SMA / DO-214AC

Unit:Inch(mm)



ORDER INFORMATION

• Packing information

Part Number	Case	Reel Size	QUANTITY
SMAJ5918B~SMAJ5956B	SMA	13 Inch	5000