

## Zener Diodes

## SMAZ3V6 - SMAZ200

### Features

- 1.0W power dissipation
- High surge capability
- Ideally suited for automatic assembly
- 5.1V-39V nominal zener voltage range
- Standard VZ tolerance is  $\pm 5\%$
- RoHS compliant with Halogen-free

HF



### Mechanical Data

- Case: SMA molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Polarity: Color band denotes cathode end

### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Power dissipation at $T_A=50^\circ\text{C}$	$P_{\text{tot}}$	1.0	W
Forward voltage @ $I_F=200\text{mA}$	$V_F$	1.2	V
Maximum thermal resistance junction to ambient	$R_{\theta JA}$	125	$^\circ\text{C/W}$
Maximum thermal resistance junction to terminal	$R_{\theta JT}$	30	$^\circ\text{C/W}$
Junction temperature	$T_J$	-55 ~ +150	$^\circ\text{C}$
Storage temperature range	$T_{\text{STG}}$	-55 ~ +150	$^\circ\text{C}$

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Electrical Characteristics (@T<sub>A</sub> = 25°C unless otherwise specified)

Type (Note 2)	Marking Code	Zener Voltage Range(Note 1)			Test Current	Maximum Zener Impedance			Maximum Reverse Current		I <sub>ZM</sub> Max
		V <sub>Z</sub> @I <sub>ZT</sub>				I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>R</sub> @V <sub>R</sub>		
		Nom (V)	Min (V)	Max (V)	mA	Ω	Ω	mA	μA	V	mA
SMAZ3V6	ZHG	3.6	3.42	3.78	100	2.0	250	1.0	2.5	1.0	230
SMAZ3V9	ZHI	3.9	3.71	4.10	100	2.0	250	1.0	2.5	1.0	213
SMAZ5V1	ZHK	5.1	4.84	5.40	100	5.0	500	1.0	2.5	1.0	196
SMAZ5V6	ZHL	5.6	5.32	5.88	100	2.0	250	2.0	5.0	2.0	179
SMAZ6V2	ZHN	6.2	5.89	6.51	100	2.0	200	2.0	5.0	3.0	161
SMAZ6V8	ZHO	6.8	6.46	7.14	100	2.0	200	1.0	5.0	4.0	147
SMAZ7V5	ZHQ	7.5	7.13	7.88	100	2.0	450	1.0	5.0	5.0	133
SMAZ8V2	ZHR	8.2	7.79	8.61	100	2.0	200	1.0	5.0	6.0	122
SMAZ9V1	ZHT	9.1	8.65	9.56	50	4.0	200	1.0	5.0	7.0	110
SMAZ10	ZHU	10	9.50	10.50	50	4.0	200	1.0	1.0	7.6	100
SMAZ12	ZHW	12	11.40	12.60	50	7.0	150	1.0	1.0	9.1	83
SMAZ15	ZHZ	15	14.25	15.75	50	10	150	1.0	1.0	11.4	67
SMAZ16	ZJA	16	15.20	16.80	25	15	150	1.0	0.5	12.2	63
SMAZ18	ZJF	18	17.10	18.90	25	15	150	1.0	0.5	13.7	56
SMAZ20	ZJG	20	19.00	21.00	25	15	180	1.0	0.5	15.2	50
SMAZ22	ZJK	22	20.90	23.10	25	15	180	1.0	0.5	16.7	45
SMAZ24	ZJL	24	22.80	25.20	25	15	180	1.0	0.5	18.2	42
SMAZ27	ZJN	27	25.65	28.35	25	15	200	1.0	0.5	20.5	37
SMAZ30	ZJQ	30	28.50	31.50	25	15	250	1.0	0.5	22.8	33
SMAZ33	ZJR	33	31.35	34.65	25	15	300	1.0	0.5	25.1	30
SMAZ36	ZJS	36	34.20	37.80	10	40	350	1.0	0.5	27.4	28
SMAZ39	ZJT	39	37.05	40.95	10	40	450	1.0	0.5	29.6	26
SMAZ47	ZJV	47	44.65	49.35	10	45	600	1.0	0.5	35.7	21
SMAZ68	ZKM	68	64.60	71.40	10	80	1000	1.0	0.5	47.1	15
SMAZ100	ZKQ	100	95.00	105.00	5.0	200	2000	1.0	0.5	75	10
SMAZ150	ZKR	150	142.50	157.50	5.0	300	4000	0.5	0.5	114	7.0
SMAZ200	ZKW	200	190.00	210.00	5.0	350	6000	0.5	0.5	152	5.0

## Notes:

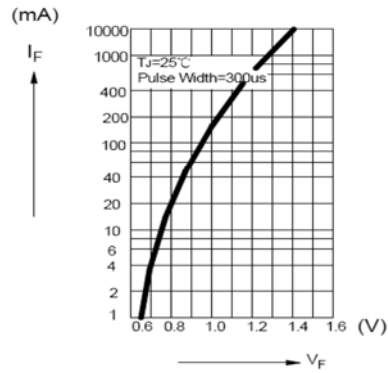
1. Short duration test pulse used to minimize self-heating effect.
2. Zener voltage below 5.1V available upon request.

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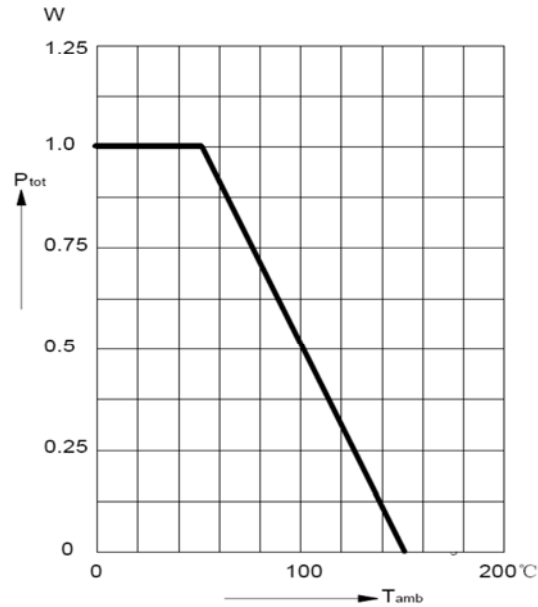
# SMAZ3V6 - SMAZ200

## Ratings and Characteristic Curves (@ $T_A=25^\circ\text{C}$ unless otherwise noted)

**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



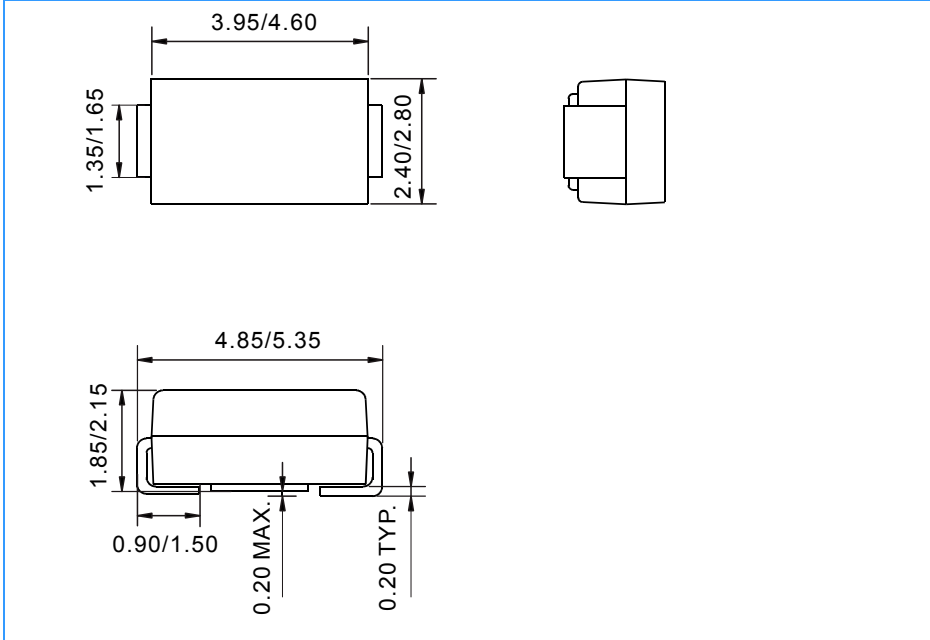
**FIG.2 – ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURE**



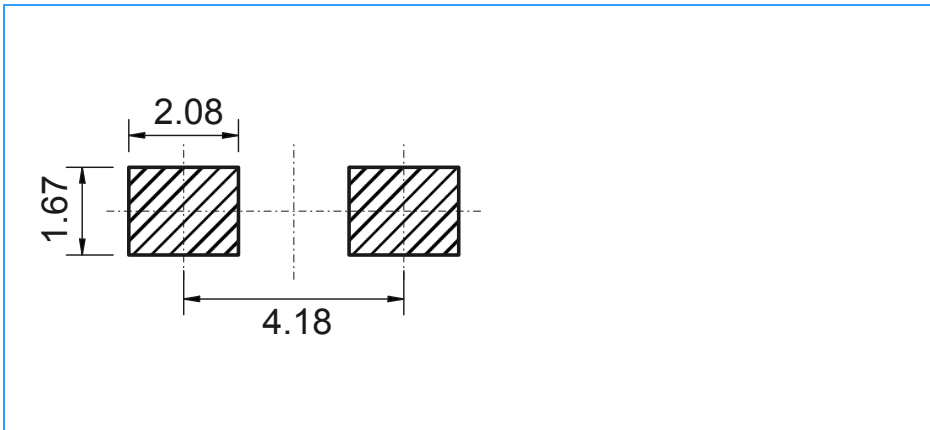
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### Package Outline Dimensions (Unit: mm)



### Mounting Pad Layout (Unit: mm)



### Ordering Information

Part Number	Package	Shipping Quantity
SMAZ3V6 - SMAZ200	SMA	5000 / Tape & Reel