



Micro Commercial Components



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# SMAZ5V1 THRU SMAZ39

**1 Watt  
Zener Diode  
5.1V - 39V Volts**

## Features

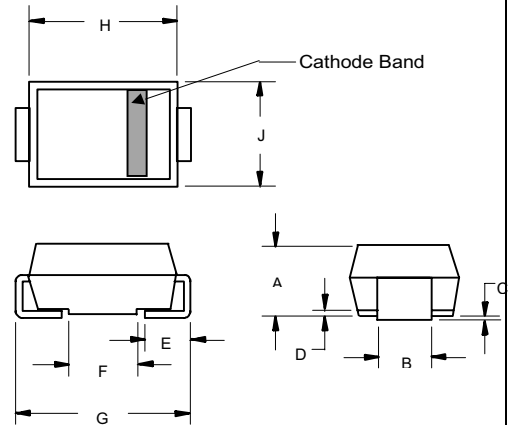
- 1.0W Power Dissipation
- High Surge Capability
- Ideally Suited for Automatic Assembly
- Standard  $V_z$  Tolerance is +/- 5%
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

## Maximum Ratings

- Storage Temperature Range ( $T_{STG}$ ): -65°C to +150°C
- Operating Temperature Range ( $T_i$ ): -65°C to +150°C

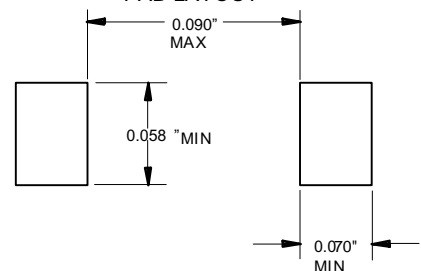
	Symbol	Value	Units
Zener Current	$I_{zM}$	$P_d/V_z$	mA
Power Dissipation @ $T_A=50^\circ\text{C}$	$P_{tot}$	1000	mW
Forward Voltage @ $I_F = 200\text{mA}$	$V_F$	1.2	V
Junction to Terminal	$R_{thJT}$	30	$^\circ\text{C/W}$
Thermal resistance	$R_{thJA}$	125	$^\circ\text{C/W}$

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



DIM	INCHES		MM		NOTE
	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.

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Part Number	Zener Voltage $V_Z$ Voltages			Maximum Zener Impedance $Z_{ZT}$ (OHMS)		Maximum Zener Impedance $Z_{ZK}$ (OHMS)		Reverse Current $I_R$ (Max) @ $V_R$		$I_{ZM}$ Max (Note 1)	Marking
	Nom	Min	Max	$I_{ZT}$ (mA)	Max	$I_{ZK}$ (mA)	Max	$\mu$ A	V	mA	
SMAZ5V1	5.10	4.84	5.40	100	5.0	1.0	500	2.5	1.0	196	Z5V1
SMAZ5V6	5.60	5.32	5.88	100	2.0	2.0	250	5.0	2.0	179	Z5V6
SMAZ6V2	6.20	5.89	6.51	100	2.0	2.0	200	5.0	3.0	161	Z6V2
SMAZ6V8	6.80	6.46	7.14	100	2.0	1.0	200	5.0	4.0	147	Z6V8
SMAZ7V5	7.50	7.13	7.88	100	2.0	1.0	450	5.0	5.0	133	Z7V5
SMAZ8V2	8.20	7.79	8.61	100	2.0	1.0	200	5.0	6.0	122	Z8V2
SMAZ9V1	9.10	8.65	9.56	50	4.0	1.0	200	5.0	7.0	110	Z9V1
SMAZ10	10.00	9.50	10.50	50	4.0	1.0	200	1.0	7.6	100	Z10
SMAZ12	12.00	11.40	12.60	50	7.0	1.0	150	1.0	9.1	83	Z12
SMAZ15	15.00	14.25	15.75	50	10.0	1.0	150	1.0	11.4	67	Z15
SMAZ16	16.00	15.20	16.80	25	15.0	1.0	150	0.5	12.2	63	Z16
SMAZ18	18.00	17.10	18.90	25	15.0	1.0	150	0.5	13.7	56	Z18
SMAZ20	20.00	19.00	21.00	25	15.0	1.0	180	0.5	15.2	50	Z20
SMAZ22	22.00	20.90	23.10	25	15.0	1.0	180	0.5	16.7	45	Z22
SMAZ24	24.00	22.80	25.20	25	15.0	1.0	180	0.5	18.2	42	Z24
SMAZ27	27.00	25.65	28.35	25	15.0	1.0	200	0.5	20.5	37	Z27
SMAZ30	30.00	28.50	31.50	25	15.0	1.0	250	0.5	22.8	33	Z30
SMAZ33	33.00	31.35	34.65	25	15.0	1.0	300	0.5	25.1	30	Z33
SMAZ36	36.00	34.20	37.80	10	40.0	1.0	350	0.5	27.4	28	Z36
SMAZ39	39.00	37.05	40.95	10	40.0	1.0	450	0.5	29.6	26	Z39

Notes1.Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch

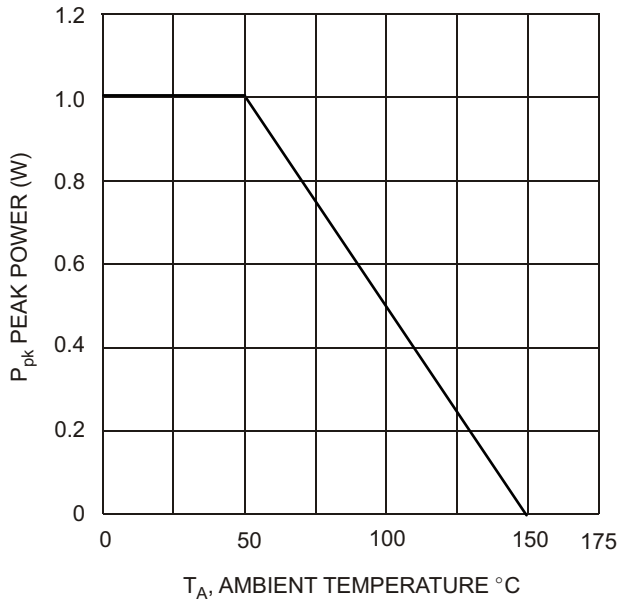


Fig. 1 Power Dissipation vs Ambient Temperature

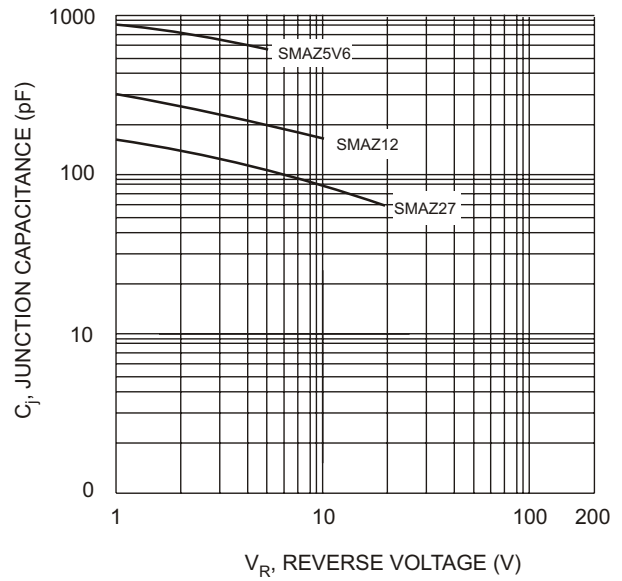


Fig. 2 Junction Capacitance vs Reverse Voltage

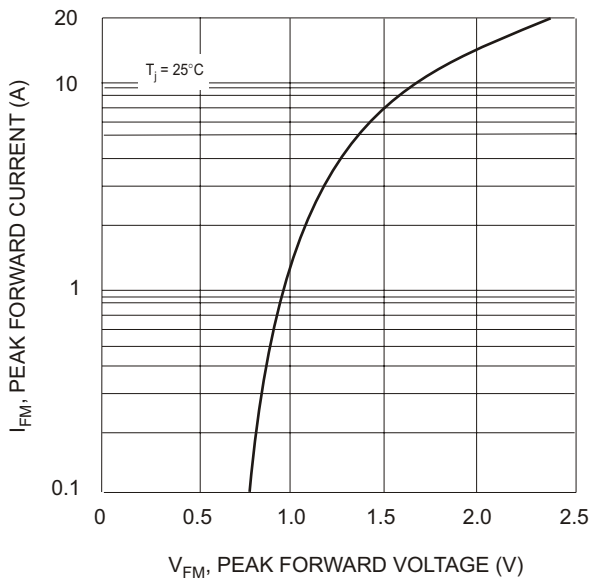


Fig. 3 Peak Forward Current vs Peak Forward Voltage

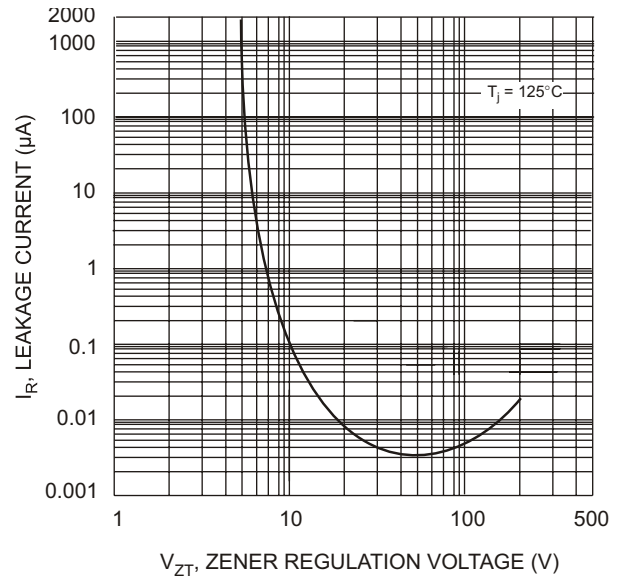


Fig. 4 Leakage Current vs Regulation Voltage

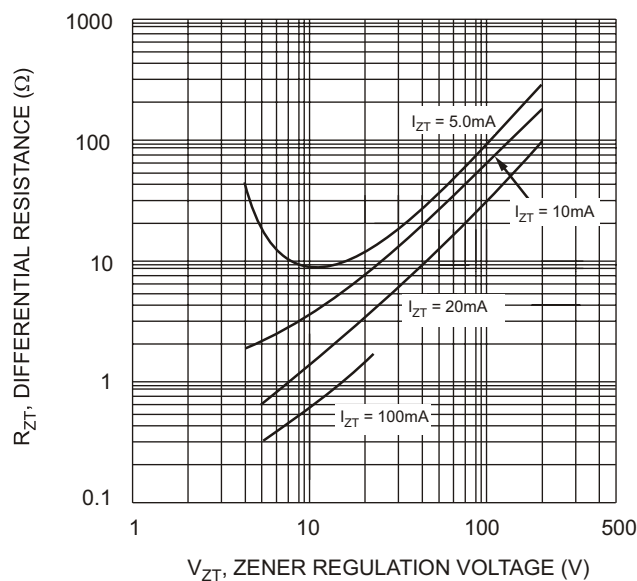


Fig. 5 Differential Resistance vs Regulation Voltage



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Ordering Information :

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

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