



Micro Commercial Components



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

# SMAZ5V1 THRU SMAZ39

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

### Features

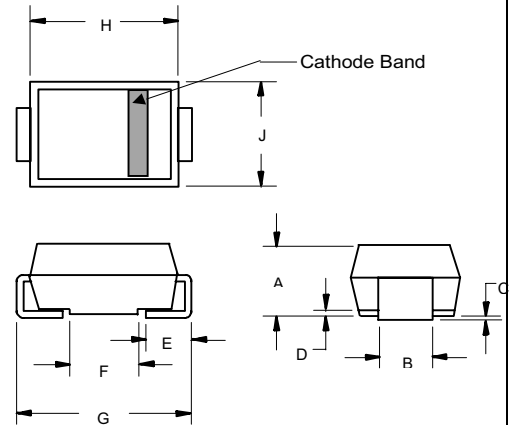
- Halogen free available upon request by adding suffix "-HF"
- 1.0W Power Dissipation
- High Surge Capability
- Ideally Suited for Automatic Assembly
- Standard  $V_z$  Tolerance is +/- 5%
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets 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 ( $T_j$ ): -65°C to +150°C

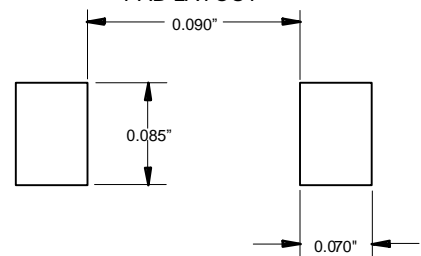
	Symbol	Value	Units
Zener Current	$I_{zM}$	$P_d/V_z$	mA
Power Dissipation @ $T_A=50^\circ\text{C}$	$P_{tot}$	1000	mW
Forward Voltage @ $I_F = 200\text{mA}$	$V_F$	1.2	V
Junction to Terminal	$R_{thJT}$	30	°C/W
Thermal resistance	$R_{thJA}$	125	°C/W

### 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

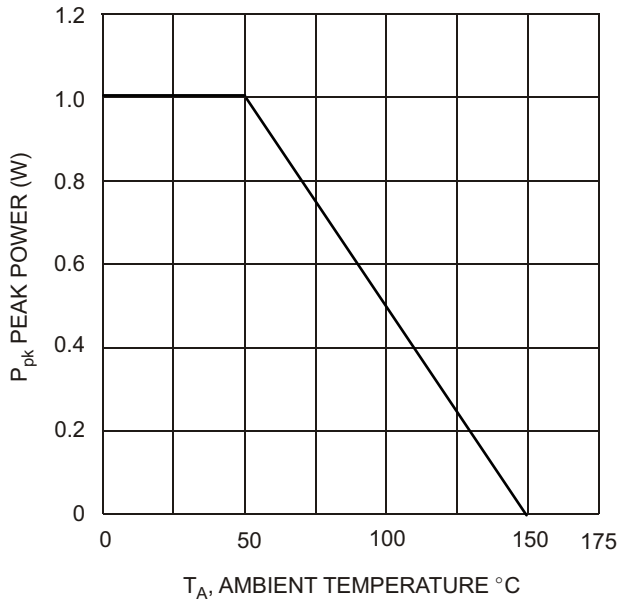


Fig. 1 Power Dissipation vs Ambient Temperature

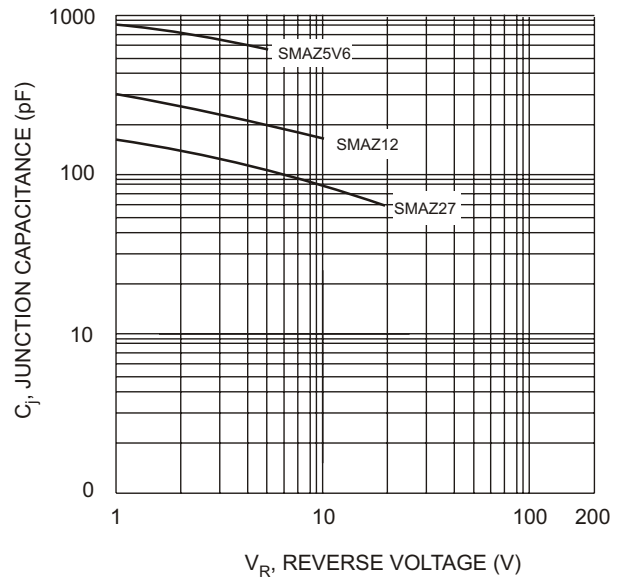


Fig. 2 Junction Capacitance vs Reverse Voltage

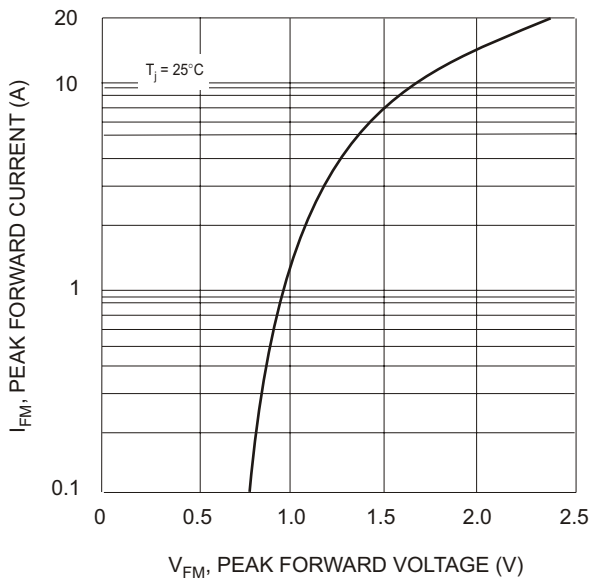


Fig. 3 Peak Forward Current vs Peak Forward Voltage

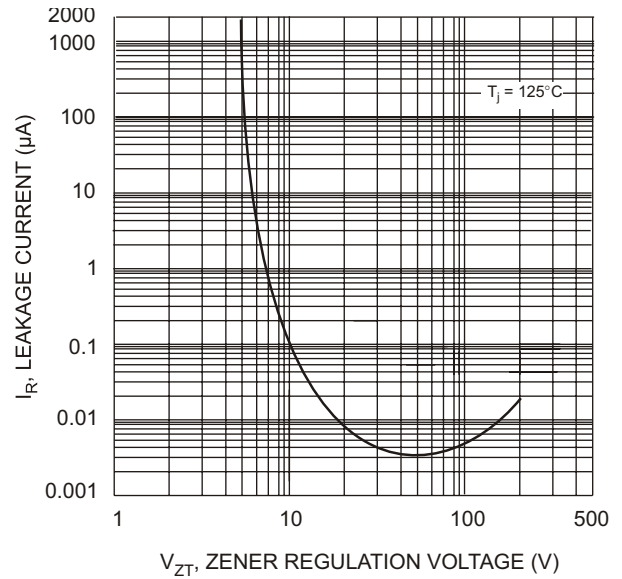


Fig. 4 Leakage Current vs Regulation Voltage

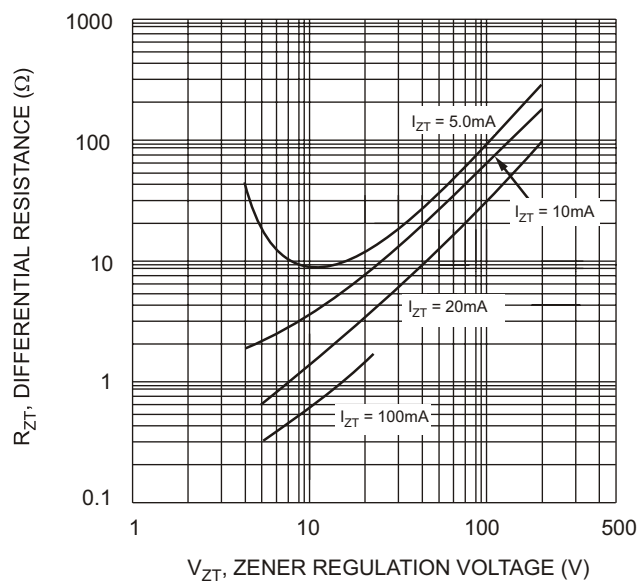


Fig. 5 Differential Resistance vs Regulation Voltage



TM

Micro Commercial Components

### 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.

[www.mccsemi.com](http://www.mccsemi.com)