

**SMAZ10HE3  
THRU  
SMAZ39HE3**

**1 Watt  
Zener Diode  
10V - 39V Volts**

**Features**

- Halogen free
- AEC-Q101 Qualified
- 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

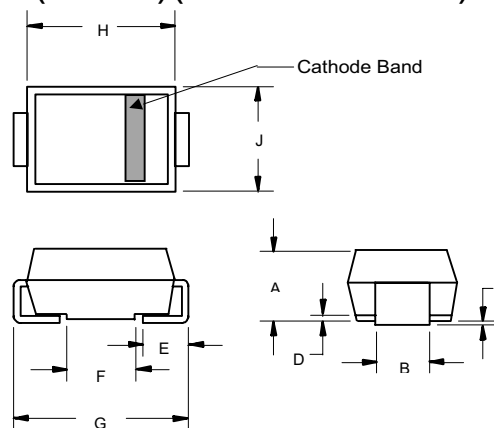
**Maximum Ratings**

- 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	$R_{thJA}$	100	°C/W

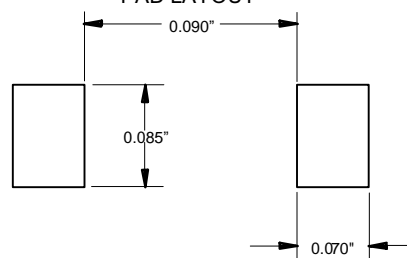
Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

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



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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**



## SMAZ10HE3 - SMAZ39HE3

### 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	
SMAZ10HE3	10.00	9.50	10.50	50	4.0	1.0	200	1.0	7.6	100	Z10
SMAZ12HE3	12.00	11.40	12.60	50	7.0	1.0	150	1.0	9.1	83	Z12
SMAZ15HE3	15.00	14.25	15.75	50	10.0	1.0	150	1.0	11.4	67	Z15
SMAZ16HE3	16.00	15.20	16.80	25	15.0	1.0	150	0.5	12.2	63	Z16
SMAZ18HE3	18.00	17.10	18.90	25	15.0	1.0	150	0.5	13.7	56	Z18
SMAZ20HE3	20.00	19.00	21.00	25	15.0	1.0	180	0.5	15.2	50	Z20
SMAZ22HE3	22.00	20.90	23.10	25	15.0	1.0	180	0.5	16.7	45	Z22
SMAZ24HE3	24.00	22.80	25.20	25	15.0	1.0	180	0.5	18.2	42	Z24
SMAZ27HE3	27.00	25.65	28.35	25	15.0	1.0	200	0.5	20.5	37	Z27
SMAZ30HE3	30.00	28.50	31.50	25	15.0	1.0	250	0.5	22.8	33	Z30
SMAZ33HE3	33.00	31.35	34.65	25	15.0	1.0	300	0.5	25.1	30	Z33
SMAZ36HE3	36.00	34.20	37.80	10	40.0	1.0	350	0.5	27.4	28	Z36
SMAZ39HE3	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 x0.85 inch x 0.062 inch

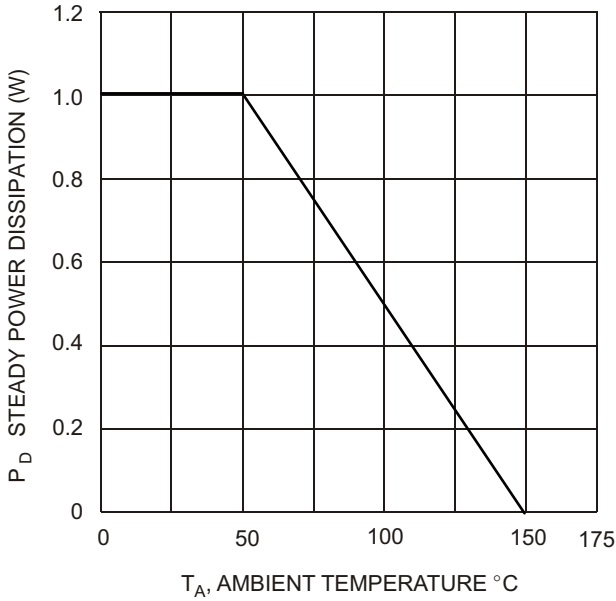


Fig. 1 Power Dissipation vs Ambient Temperature

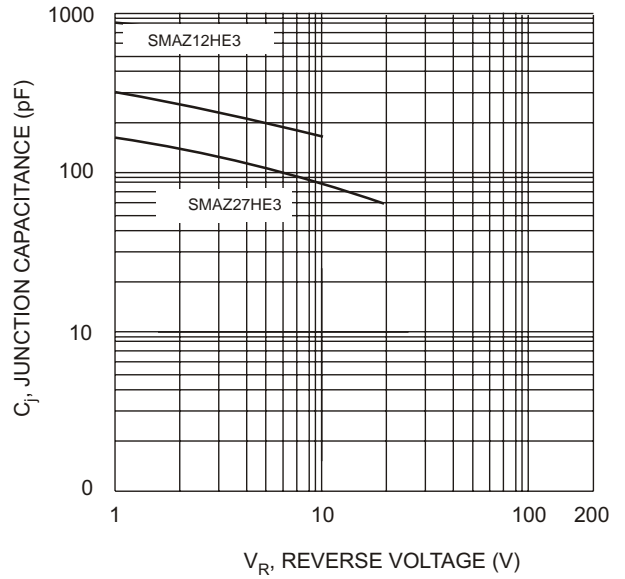


Fig. 2 Junction Capacitance vs Reverse Voltage

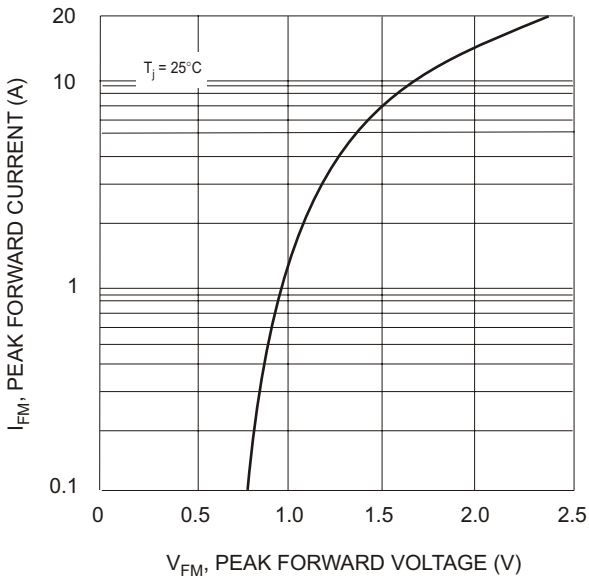


Fig. 3 Peak Forward Current vs Peak Forward Voltage

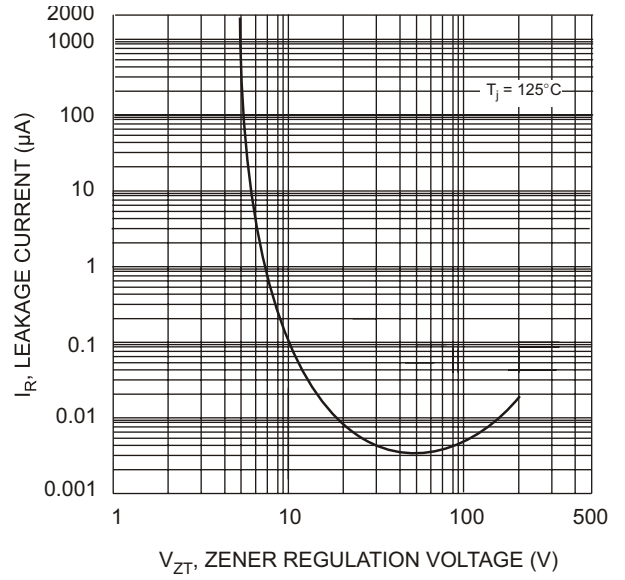


Fig. 4 Leakage Current vs Regulation Voltage

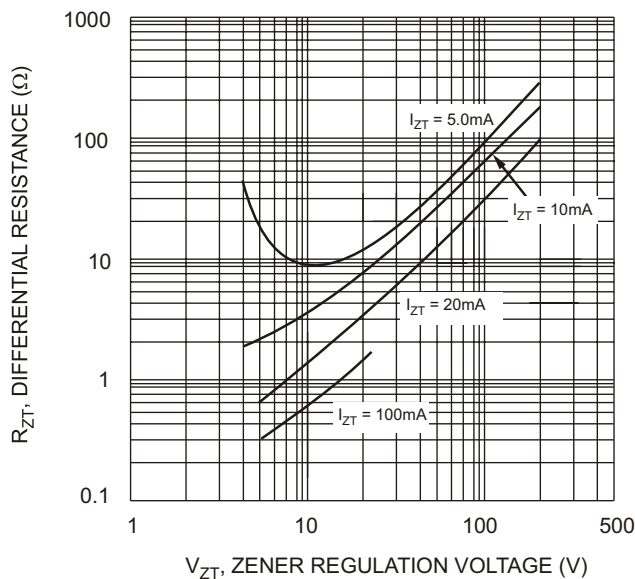


Fig. 5 Differential Resistance vs Regulation Voltage



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Ordering Information :

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

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