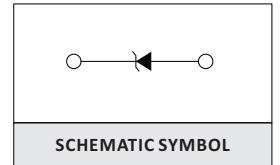


## FEATURES

- > 1.0W Power Dissipation
- > Ideally Suited for Automated Assembly
- > 5.1V - 39V Nominal Zener Voltage Range
- > Standard VZ Tolerance is  $\pm 5\%$
- > RoHS compliant

## MECHANICAL DATA

- > Case: Molded plastic
- > Epoxy: UL 94V-0 rate flame retardant
- > Lead: Solderable per MIL-STD-750, method 2026
- > Polarity: Color band denotes cathode end except Bipolar
- > Mounting position: Any
- > Weight: 0.064 grams


**DO-214AC PACKAGE**

**SCHEMATIC SYMBOL**

## MAXIMUM RATINGS AND THERMAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.)

PARAMETER	SYMBOL	VALUE	UNIT
Forward Voltage @ $I_F = 200\text{mA}$	$V_F$	1.2	V
Zener Current	$I_{ZM}$	$P_D/V_Z$	mA
Power Dissipation @ $T_A = 50^\circ\text{C}$	$P_D$	1.0	W
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 ~ +150	$^\circ\text{C}$

## DO-214AC(SMA) PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	Min.	Max.	Min.	Max.
A	1.23	1.63	0.048	0.064
B	4.10	4.55	0.161	0.179
C	2.60	2.80	0.102	0.110
D	2.15	2.35	0.085	0.093
E	0.75	1.51	0.030	0.059
F	0.02	0.20	0.001	0.008
G	4.87	5.22	0.192	0.206
H	0.15	0.30	0.006	0.012

**NOTES:**

- Dimensions are exclusive of mold flash and metal burrs
- Polarity Band is only applicable to the unidirectional package

## RECOMMENDED PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	Min.	Max.	Min.	Max.
A	1.63	-	0.064	-
B	1.45	-	0.057	-
C	-	2.28	-	0.090
D	1.45	-	0.057	-
E	5.25 REF		0.208 REF	



### ELECTRICAL CHARACTERISTICS

PART NUMBER	ZENER VOLTAGE RANGE(Note 1)			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT(Note 1)		MAX. $I_{ZM}$ (Note 2)
	$V_Z @ I_{ZT}$				$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Typ.(V)	Min.(V)	Max.(V)	mA	$\Omega$	$\Omega$	mA	$\mu A$	V	mA
SMAZ5V1	5.10	4.84	5.40	100	5.0	500	1.0	2.5	1.0	196
SMAZ5V6	5.60	5.32	5.88	100	2.0	250	2.0	5.0	2.0	179
SMAZ6V2	6.20	5.89	6.51	100	2.0	200	2.0	5.0	3.0	161
SMAZ6V8	6.80	6.46	7.14	100	2.0	200	1.0	5.0	4.0	147
SMAZ7V5	7.50	7.13	7.88	100	2.0	450	1.0	5.0	5.0	133
SMAZ8V2	8.20	7.79	8.61	100	2.0	200	1.0	5.0	6.0	122
SMAZ9V1	9.10	8.65	9.56	50	4.0	200	1.0	5.0	7.0	110
SMAZ10	10.0	9.50	10.5	50	4.0	200	1.0	5.0	7.6	100
SMAZ12	12.00	11.40	12.60	50	7.0	150	1.0	1.0	9.1	83
SMAZ15	15.00	14.25	15.75	50	10.0	150	1.0	1.0	11.4	67
SMAZ16	16.00	15.20	16.80	25	15.0	150	1.0	1.0	12.2	63
SMAZ18	18.00	17.10	18.90	25	15.0	150	1.0	0.5	13.7	56
SMAZ20	20.00	19.00	21.00	25	15.0	180	1.0	0.5	15.2	50
SMAZ22	22.00	20.90	23.10	25	15.0	180	1.0	0.5	16.7	45
SMAZ24	24.00	22.80	25.20	25	15.0	180	1.0	0.5	18.2	42
SMAZ27	27.00	25.65	28.35	25	15.0	200	1.0	0.5	20.5	37
SMAZ30	30.00	28.50	31.50	25	15.0	250	1.0	0.5	22.8	33
SMAZ33	33.00	31.35	34.65	25	15.0	300	1.0	0.5	25.1	30
SMAZ36	36.00	34.20	37.80	10	15.0	350	1.0	0.5	27.4	28
SMAZ39	39.00	37.05	40.95	10	40.0	450	1.0	0.5	29.6	26

**Note:**

1. Short duration pulse test used to minimize self-heating effect.

2. The max zener current is not absolute, Please confirm that the product of the voltage and current should not exceed the rated Power dissipation in actual zener application.



RATINGS AND CHARACTERISTICS CURVES ( $T_A=25^\circ\text{C}$  UNLESS OTHERWISE NOTED)

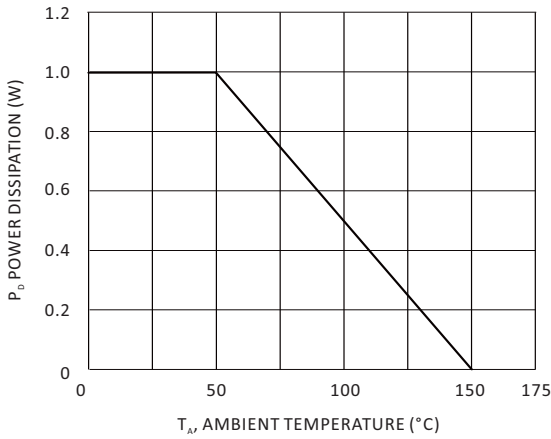


Fig. 1 - Power Dissipation vs. Ambient Temperature

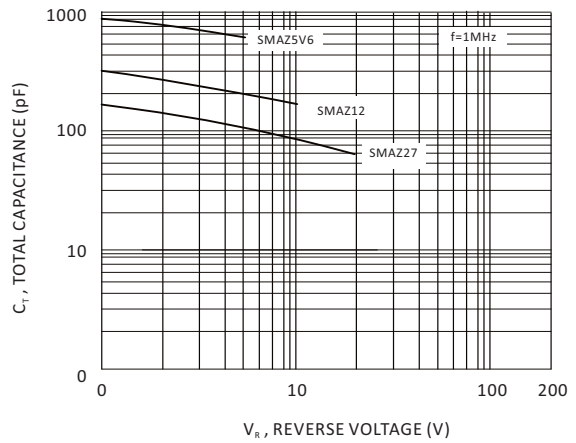


Fig. 2 - Typical Total Capacitance vs. Reverse Voltage

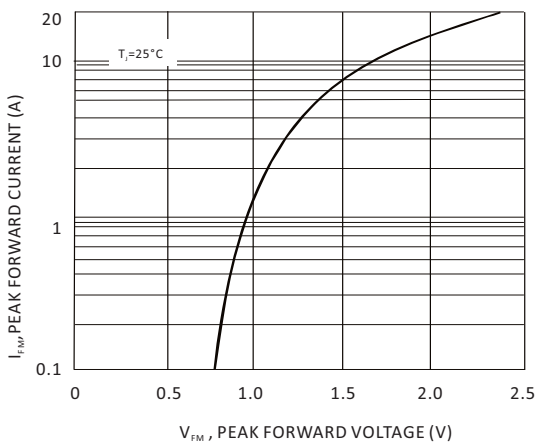


Fig. 3 - Peak Forward Current vs. Peak Forward Voltage

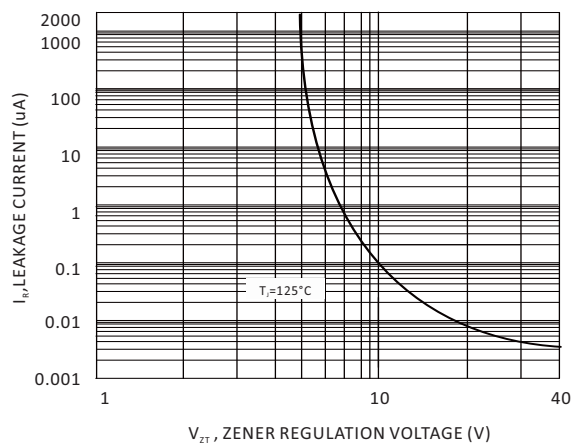


Fig. 4 - Leakage Current vs. Regulation Voltage

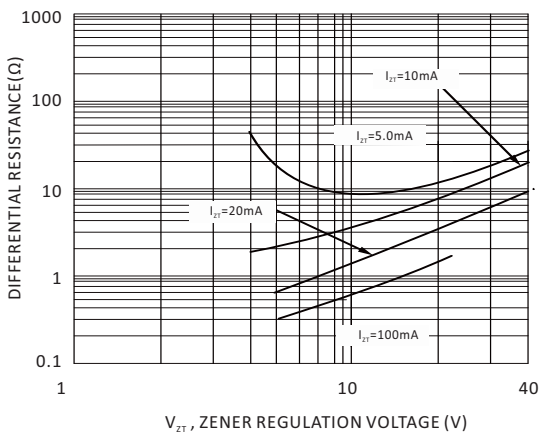


Fig. 5 - Differential Resistance vs. Regulation Voltage



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