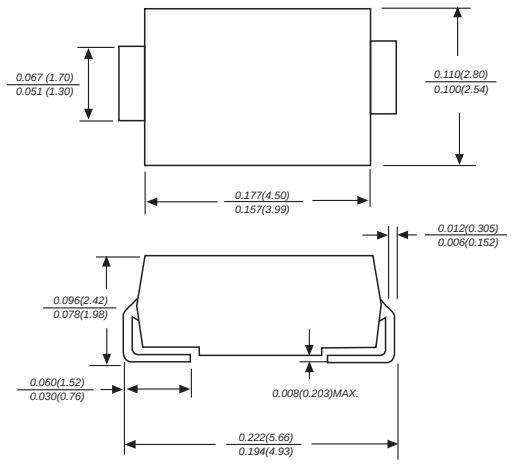
SMAZxxx Series

1.0W SURFACE MOUNT ZENER DIODE

Features

- 1.0W Power Dissipation
- High Surge Capability
- Ideally Suited for Automatic Assembly
- 5.1V - 200V Nominal Zener Voltage Range
- Standard V_Z Tolerance is ± 5%

DO-214AC/SMA



Dimensions in inches and (millimeters)

Mechanical Data

- Case: SMA, Molded Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Marking: Marking & Date Code (See Page 2)
- Ordering Information: See Page 2
- Polarity: Cathode Notch or Cathode Band
- Weight: 0.064 grams (approx.)

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Zener Current (see Table page 2)	I_{ZM}	Pd / V_Z	mA
Forward Voltage @I_F = 200mA	V_F	1.2	V
Power Dissipation @T_A = 50°C Derate Above 50°C (Note 1)	P_d	1.0 8.0	W mW/°C
Typical Thermal Resistance - Junction to Terminal (Note 1)	$R_{\theta JT}$	30	°C/W
Typical Thermal Resistance - Junction to Ambient (Note 1)	$R_{\theta JA}$	125	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

Note :

(1) P.C.B. Mounted on 1.0" x 0.85" x 0.062" copper areas pads.

Electrical Characteristics @T_A = 25°C unless otherwise noted

Type Number (Note 3)	Marking Code	Zener Voltage Range (Note 2)			Test Current	Maximum Zener Impedance			Maximum Reverse Current		I_{ZM} Max (Note 1)
		V_Z @ I_{ZT}			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		
		Nom (V)	Min (V)	Max (V)	mA	Ω	Ω	mA	μA	V	mA
SMAZ5V1	ZHK	5.1	4.84	5.40	100	5.0	500	1.0	2.5	1.0	196
SMAZ5V6	ZHL	5.60	5.32	5.88	100	2.0	250	2.0	5.0	2.0	179
SMAZ6V2	ZHN	6.20	5.89	6.51	100	2.0	200	2.0	5.0	3.0	161
SMAZ6V8	ZHO	6.80	6.46	7.14	100	2.0	200	1.0	5.0	4.0	147
SMAZ7V5	ZHQ	7.50	7.13	7.88	100	2.0	450	1.0	5.0	5.0	133
SMAZ8V2	ZHR	8.20	7.79	8.61	100	2.0	200	1.0	5.0	6.0	122
SMAZ9V1	ZHT	9.10	8.65	9.56	50	4.0	200	1.0	5.0	7.0	110
SMAZ10	ZHU	10.00	9.50	10.50	50	4.0	200	1.0	1.0	7.6	100
SMAZ12	ZHW	12.00	11.40	12.60	50	7.0	150	1.0	1.0	9.1	83
SMAZ15	ZHZ	15.00	14.25	15.75	50	10	150	1.0	1.0	11.4	67
SMAZ16	ZJA	16.00	15.20	16.80	25	15	150	1.0	0.5	12.2	63
SMAZ18	ZJF	18.00	17.10	18.90	25	15	150	1.0	0.5	13.7	56
SMAZ20	ZJG	20.00	19.00	21.00	25	15	180	1.0	0.5	15.2	50
SMAZ22	ZJK	22.00	20.90	23.10	25	15	180	1.0	0.5	16.7	45
SMAZ24	ZJL	24.00	22.80	25.20	25	15	180	1.0	0.5	18.2	42
SMAZ27	ZJN	27.00	25.65	28.35	25	15	200	1.0	0.5	20.5	37
SMAZ30	ZJQ	30.00	28.50	31.50	25	15	250	1.0	0.5	22.8	33
SMAZ33	ZJR	33.00	31.35	34.65	25	15	300	1.0	0.5	25.1	30
SMAZ36	ZJS	36.00	34.20	37.80	10	40	350	1.0	0.5	27.4	28
SMAZ39	ZJT	39.00	37.05	40.95	10	40	450	1.0	0.5	29.6	26
SMAZ47	ZJV	47.00	44.65	49.35	10	45	600	1.0	0.5	35.7	40
SMAZ68	ZKM	68.00	64.60	71.40	10	80	1000	1.0	0.5	47.1	30
SMAZ100	ZKQ	100.00	95.00	105.00	5.0	200	2000	1.0	0.5	75.0	18
SMAZ150	ZKR	150.00	142.50	157.50	5.0	300	4000	0.5	0.5	114	12.8
SMAZ200	ZKW	200.00	190.00	210.00	5.0	600	6000	0.5	0.5	152	9.4

Notes :

(1) P.C.B. Mounted on 1.0" x 0.85" x 0,062" copper areas pads.

(2) Short duration test pulse used to minimize self-heating effect.

(3) "SMA" will be omitted in marking on the diode.

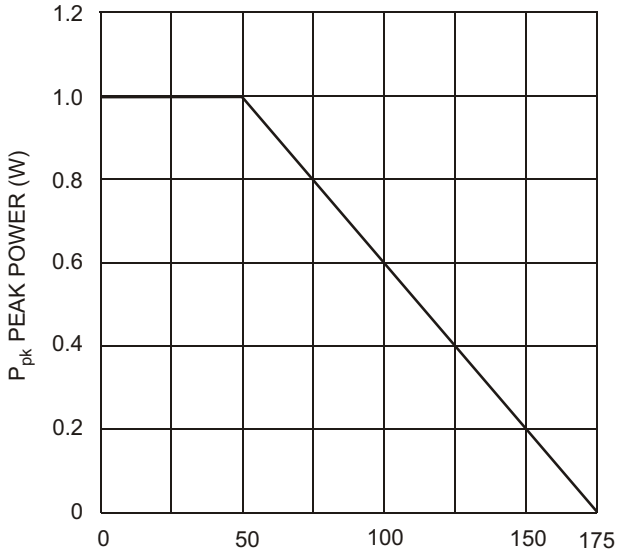


Fig. 1 Power Dissipation vs Ambient Temperature

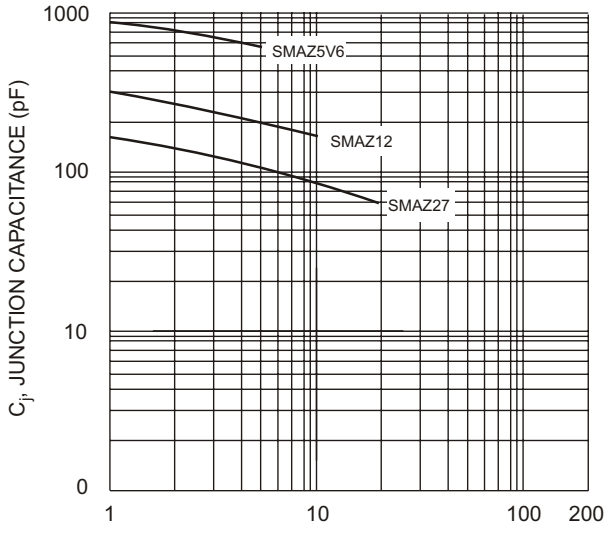


Fig. 2 Junction Capacitance vs Reverse Voltage

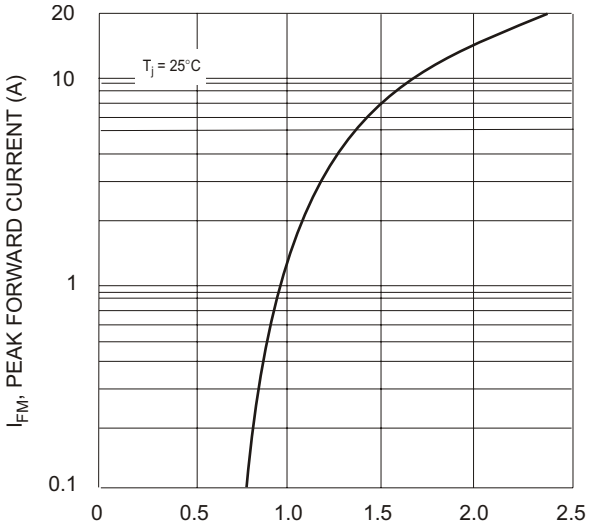


Fig. 3 Peak Forward Current vs Peak Forward Voltage

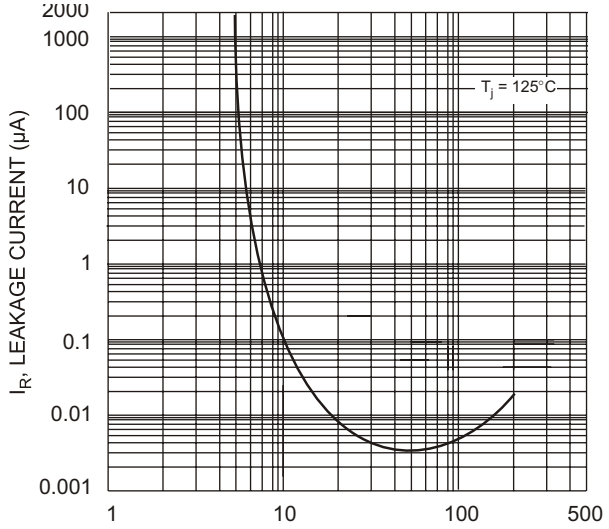


Fig. 4 Leakage Current vs Regulation Voltage

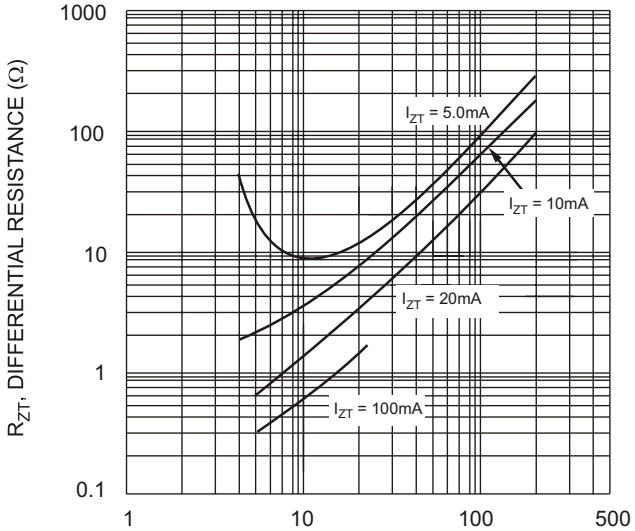


Fig. 5 Differential Resistance vs Regulation Voltage