THE DATASHEET OF

SMAZ47-13

SMAZ5V6 - SMAZ200

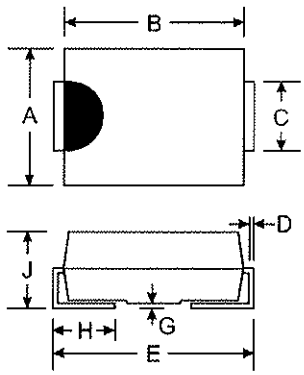
1.0W SURFACE MOUNT ZENER DIODE

Features

- 2.0W Power Dissipation on Infinite Heat Sink
- High Surge Capability
- Ideally Suited for Automatic Assembly
- 5.6V - 200V Nominal Zener Voltage Range
- Standard V_Z Tolerance is ± 5%
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: SMA, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Marking: Marking Code (See Table on Page 2)
- Polarity: Cathode Notch or Cathode Band
- Weight: 0.064 grams (approx.)
- Mounting Position: Any



SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.10	0.20
H	0.76	1.52
J	2.01	2.62
All Dimensions in mm		

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Zener Current (see Table page 2)	I_Z	Pd / V_Z	mA
Power Dissipation @ 50°C Derate Above 50°C (Note 1)	P_d	1.0 8.0	W mW/°C
Typical Thermal Resistance - Junction to Lead (Note 1)	$R_{\theta JL}$	30	K/W
Typical Thermal Resistance - Junction to Ambient (Note 1)	$R_{\theta JA}$	120	K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +175	°C

Notes: 1. Valid provided that device terminals are kept at ambient temperature.
2. Tested with I_{ZT} current pulses. Pulse width ≤ 50ms.

Electrical Characteristics @T_A = 25°C unless otherwise noted

Type Number	Marking Code	Zener Voltage Range (Note 2)			Test Current	Maximum Zener Impedance			Maximum Reverse Current		I_{ZSM} Max (Note 1)		Typical Temperature Coefficient
		V_Z @ I_{ZT}			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		25°C	125°C	$_{\Delta}V_Z$
		Nom (V)	Min (V)	Max (V)	mA	Ω	Ω	mA	µA	V	A	mA	%/K
SMAZ5V6	ZHL	5.60	5.32	5.88	100	2.0	250	2.0	5.0	1.0	7.1	330	0.025
SMAZ6V2	ZHN	6.20	5.89	6.51	100	2.0	200	2.0	5.0	1.0	6.4	300	0.032
SMAZ6V8	ZHO	6.80	6.46	7.14	100	2.0	200	1.0	5.0	1.0	5.9	275	0.040
SMAZ7V5	ZHQ	7.50	7.13	7.88	100	2.0	450	1.0	5.0	2.0	5.4	250	0.045
SMAZ8V2	ZHR	8.20	7.79	8.61	100	2.0	200	1.0	5.0	3.5	4.9	220	0.048
SMAZ9V1	ZHT	9.10	8.65	9.56	50	4.0	200	1.0	5.0	3.5	4.4	205	0.051
SMAZ10	ZHU	10.00	9.50	10.50	50	4.0	200	1.0	1.0	8.3	3.6	170	0.060
SMAZ12	ZHW	12.00	11.40	12.60	50	7.0	150	1.0	1.0	9.1	3.3	155	0.065
SMAZ15	ZHZ	15.00	14.25	15.75	50	10	150	1.0	1.0	11.4	2.7	130	0.070
SMAZ16	ZJA	16.00	15.20	16.80	25	15	150	1.0	0.5	12.2	2.5	115	0.070
SMAZ18	ZJF	18.00	17.10	18.90	25	15	150	1.0	0.5	13.7	2.2	105	0.075
SMAZ20	ZJG	20.00	19.00	21.00	25	15	180	1.0	0.5	15.2	2.0	94	0.075
SMAZ22	ZJK	22.00	20.90	23.10	25	15	180	1.0	0.5	16.7	1.8	86	0.080
SMAZ24	ZJL	24.00	22.80	25.20	25	15	180	1.0	0.5	18.2	1.6	78	0.080
SMAZ27	ZJN	27.00	25.65	28.35	25	15	200	1.0	0.5	20.5	1.4	69	0.085
SMAZ30	ZJQ	30.00	28.50	31.50	25	15	250	1.0	0.5	22.8	1.1	62	0.085
SMAZ33	ZJR	33.00	31.35	34.65	25	15	300	1.0	0.5	25.1	1.0	56	0.085
SMAZ36	ZJS	36.00	34.20	37.80	10	40	350	1.0	0.5	27.4	0.9	52	0.085
SMAZ39	ZJT	39.00	37.05	40.95	10	40	450	1.0	0.5	29.6	1.0	48	0.090
SMAZ47	ZJV	47.00	44.65	49.35	10	45	600	1.0	0.5	35.7	0.7	40	0.090
SMAZ68	ZKM	68.00	64.60	71.40	10	80	1000	1.0	0.5	47.1	0.064	30	0.090
SMAZ100	ZKQ	100.00	95.00	105.00	5.0	200	2000	1.0	0.5	75	0.40	18	0.090
SMAZ150	ZKR	150.00	142.50	157.50	5.0	300	4000	0.5	0.5	114	0.15	12.8	0.095
SMAZ200	ZKW	200.00	190.00	210.00	5.0	350	6000	0.5	0.5	152	0.12	9.4	0.095

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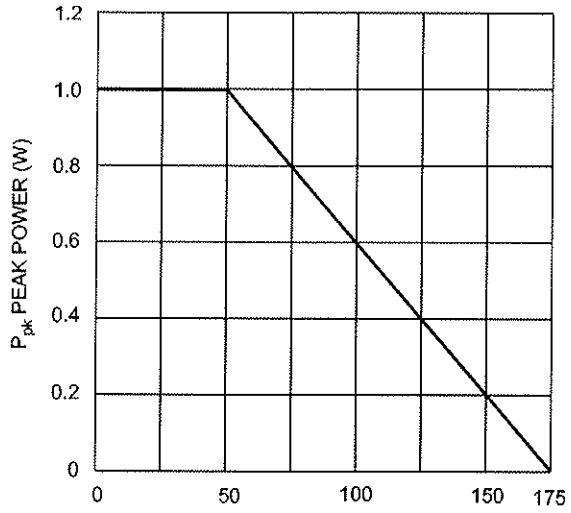

Fig. 1 Power Dissipation vs Ambient Temperature

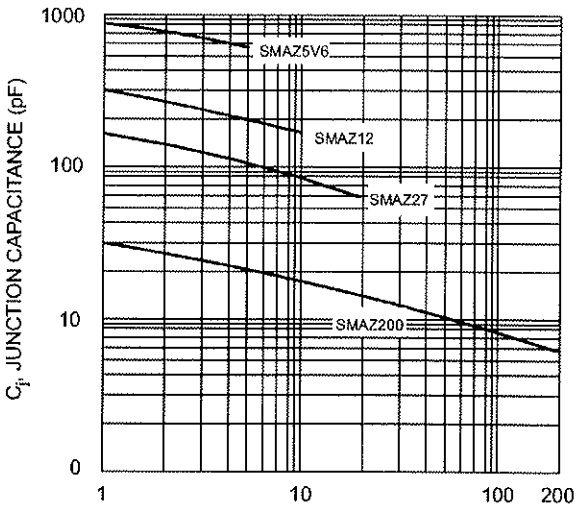

Fig. 2 Junction Capacitance vs Reverse Voltage

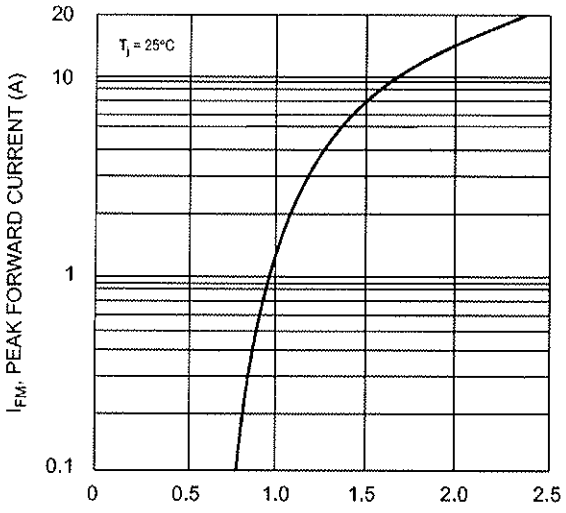

Fig. 3 Peak Forward Current vs Peak Forward Voltage

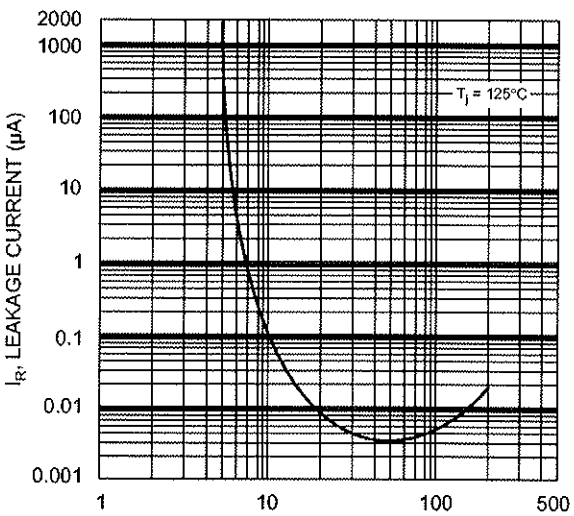

Fig. 4 Leakage Current vs Regulation Voltage

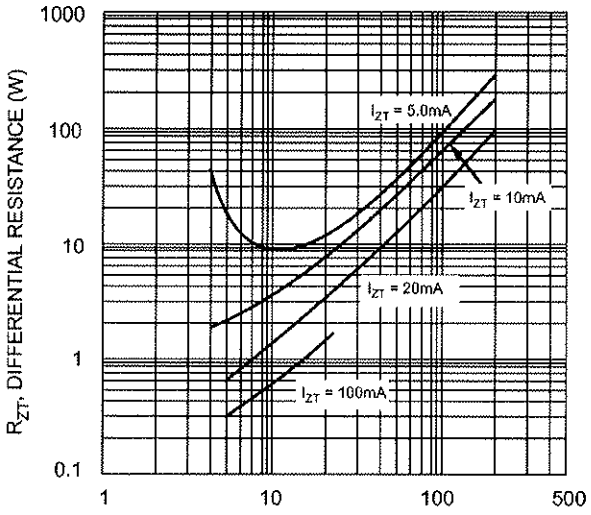

Fig. 5 Differential Resistance vs Regulation Voltage

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