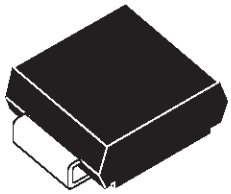
SM2Z5V1 / SM2Z200

2W ZENER DIODES

FEATURES

- VOLTAGE RANGE : 5.1V to 200V
- SMA PACKAGE
- HIGH SURGE CAPABILITY : 40 W (10 ms)



SMA
(JEDEC DO-214AC)

DESCRIPTION

- 2 W Zener diodes
- Tinned copper leads.
- Full compatibility with both gluing and paste soldering techniques.

ABSOLUTE MAXIMUM RATINGS (Tamb = 25°C)

Symbol	Parameter		Value	Unit
P	Power dissipation on infinite heatsink	Tamb = 115°C	2	W
T_{stg} T_j	Storage temperature range Junction temperature range		- 65 to + 175 175	°C °C
T_L	Maximum lead temperature for soldering		260	°C

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th\ (j-l)}$	Junction to lead	30	°C/W
$R_{th\ (j-a)}$	Junction to ambient on printed circuit On recommended pad layout	120	°C/W

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C)

Types	Marking	V_{ZT} @ I_{ZT} min. V (1)	V_{ZT} @ I_{ZT} max. V (1)	R_{ZT} @I_{ZT} max. Ω (1)	I_{ZT} mA (1)	R_{ZK} @ I_{ZK} max. Ω	I_{ZK} mA	αV_Z typ. 10^{-4}/°C	I_R @ V_R max. µA	V_R V	I_{ZM} max. T_{amb}=115°C mA (2)	I_{ZSM} max. A (3)
SM2Z5V1	ZHK	4.8	5.4	5	100	350	2	1	5	1	370	7.8
SM2Z5V6	ZHL	5.2	6	2	100	250	2	2.5	5	1	330	7.1
SM2Z6V2	ZHN	5.8	6.6	2	100	200	2	3.2	5	1	300	6.4
SM2Z7V5	ZHQ	7	7.9	2	100	450	1	4.5	5	2	250	5.4
SM2Z10	ZHU	9.4	10.6	4	50	200	1	6	1	8.3	170	3.6
SM2Z12	ZHW	11.4	12.7	7	50	150	1	6.5	1	9.1	155	3.3
SM2Z15	ZHZ	13.8	15.6	10	50	150	1	7	1	11.4	130	2.7
SM2Z18	ZJF	16.8	19.1	15	25	150	1	7.5	0.5	13.7	105	2.2
SM2Z20	ZJG	18.8	21.2	15	25	180	1	7.5	0.5	15.2	94	2
SM2Z22	ZJK	20.8	23.3	15	25	180	1	8	0.5	16.7	86	1.8
SM2Z24	ZJL	22.8	25.6	15	25	180	1	8	0.5	18.2	78	1.6
SM2Z27	ZJN	25.1	28.9	15	25	200	1	8.5	0.5	20.5	69	1.4
SM2Z30	ZJQ	28	32	15	25	250	1	8.5	0.5	22.8	62	1.1
SM2Z36	ZJS	34	38	40	10	350	1	8.5	0.5	27.4	52	0.9
SM2Z39	ZJT	37	41	40	10	450	1	9	0.5	29.6	48	0.83
SM2Z43	ZJU	40.4	45.6	40	10	550	1	9	0.5	32.7	45	0.76
SM2Z47	ZJV	44	50	45	10	600	1	9	0.5	35.7	40	0.7
SM2Z62	ZKD	58.3	65.7	80	10	1000	1	9	0.5	47.1	35	0.67
SM2Z68	ZKM	64	72	80	10	1000	1	9	0.5	47.1	30	0.64
SM2Z100	ZKQ	94	106	200	5	2000	1	9	0.5	76	18	0.4
SM2Z150	ZKR	138	156	300	5	4000	0.5	9.5	0.5	114	12.8	0.15
SM2Z200	ZKW	188	212	350	5	6000	0.5	9.5	0.5	152	9.4	0.12

Note 1 : Pulse test : $t_p \leq 50$ms
Note 2 : Infinite heatsink
Note 3 : Rectangular waveform t_p = 10ms

Fig. 1 : Power dissipation versus ambient temperature.

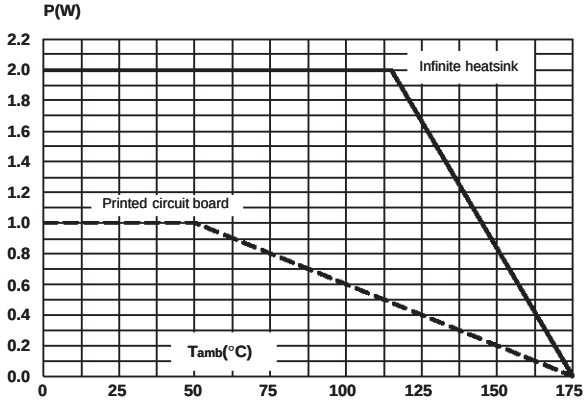


Fig. 2 : Junction to ambient thermal resistance versus copper surface under each lead.

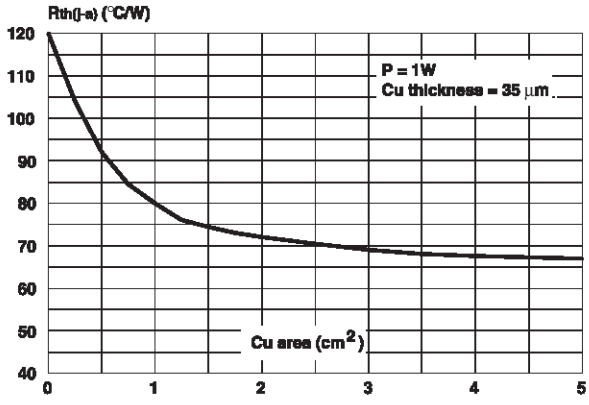


Fig. 3 : Relative variation of thermal impedance versus pulse duration (PC board FR4) for $Z_{th(j-a)}$ only.

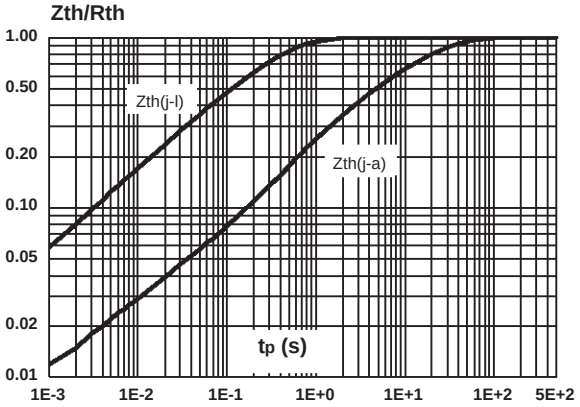


Fig. 4 : Junction capacitance versus reverse voltage applied (typical values).

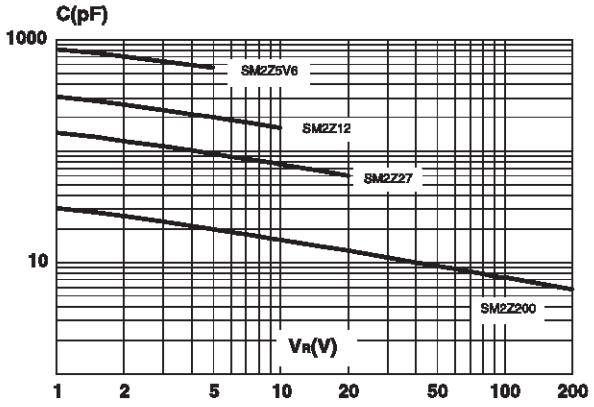


Fig. 5 : Peak forward current versus peak forward voltage drop (typical values).

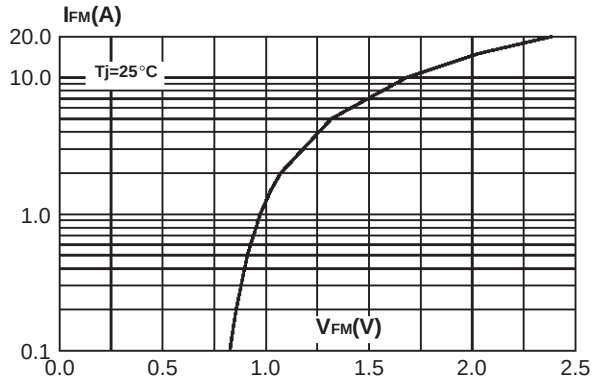


Fig. 6 : Leakage current versus regulation voltage (typical values).

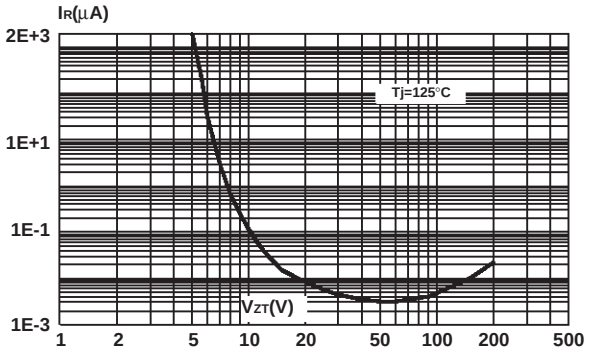


Fig. 7 : Differential resistance versus regulation voltage (typical values).

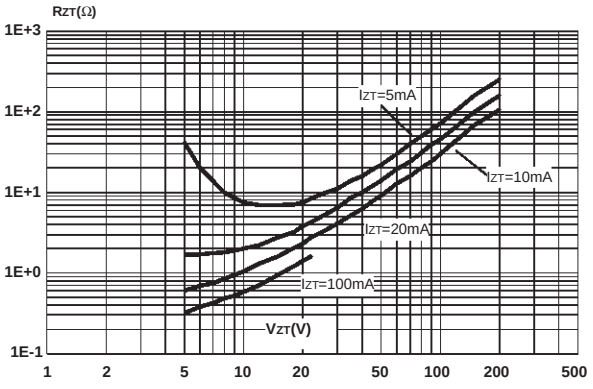
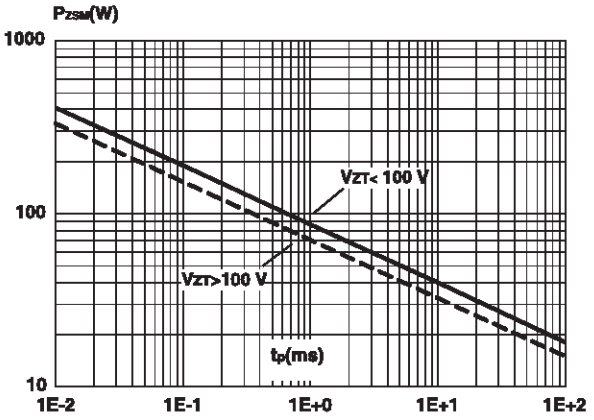
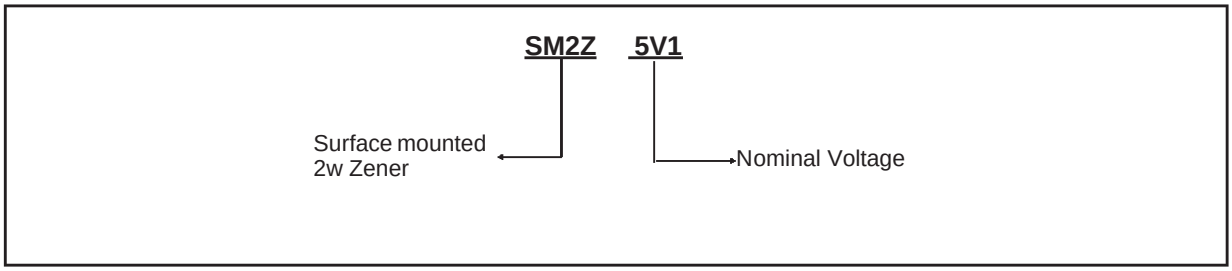


Fig. 8 : Peak pulse power versus pulse duration (rectangular waveform, maximum values).

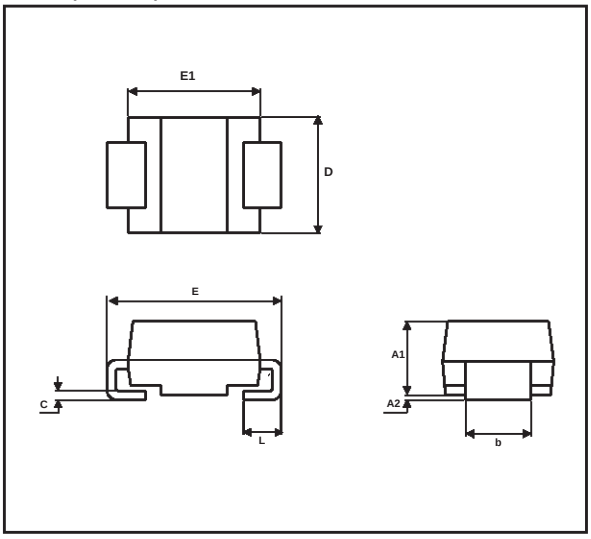


ORDER CODE



PACKAGE MECHANICAL DATA

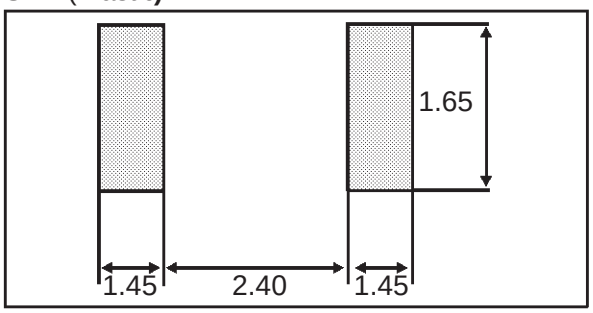
SMA (Plastic)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A1	1.90	2.70	0.075	0.106
A2	0.05	0.20	0.002	0.008
b	1.25	1.65	0.049	0.065
c	0.15	0.41	0.006	0.016
E	4.80	5.60	0.189	0.220
E1	3.95	4.60	0.156	0.181
D	2.25	2.95	0.089	0.116
L	0.75	1.60	0.030	0.063

FOOT PRINT DIMENSIONS (in millimeters)

SMA (Plastic)



Packaging : standard packaging is in tape and reel.

Weight = 0.068 g