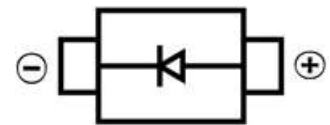


ZENER DIODES**FEATURES**

- 3W power dissipation
- Zener voltage from 5.6V~51V
- $\pm 5\%$ standard V_z tolerance
- Surface mount device

**SMB****MECHANICAL DATA**

- Case: SMB(DO-214AA)
- Case material: Molded plastic, UL flammability
- Classification rating: 94V-0
- Terminal: Tin plated, solderable per MIL-STD-750, method 2026
- Weight: 0.088 grams (approximate)

**MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Power dissipation ($T_A=50^{\circ}\text{C}$, noted 1)	P_{tot}	3	W
Maximum forward voltage at $I_F=200\text{mA}$	V_F	1.2	V
Operating junction temperature	T_j	$-50 \sim +150$	$^{\circ}\text{C}$
Storage temperature	T_s	$-50 \sim +175$	$^{\circ}\text{C}$

1. Mounted on P.C. board with 50mm^2 copper pads at each terminal;
2. Tested with pulses;
3. Z2SMB1 is a diode operated in forward. Hence, the index of all parameters should be "F" instead of "Z". The cathode, indicated by a white band, has to be connected to the negative pole.

ZENER DIODES
ELECTRICAL CHARACTERISTICS (T =25°C unless otherwise specified)

Part Number	Nominal Zener Voltage			Maximum Zener Impedance				Max Reverse Leakage Current		Marking Code
	V _Z @ I _{ZT}			Z _{ZT}	I _{ZT}	Z _{ZK}	I _{ZK}	I _R @ V _R		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
1SMB3EZ5.6	5.6	5.32	5.88	2	134	700	1	5	3	5V6B
1SMB3EZ6.2	6.2	5.89	6.51	2	120	700	1	5	4	6V2B
1SMB3EZ6.8	6.8	6.46	7.14	2	110	700	1	5	4	6V8B
1SMB3EZ7.5	7.5	7.13	7.88	2	100	700	0.5	5	5	7V5B
1SMB3EZ8.2	8.2	7.79	8.61	2	91	700	0.5	5	6	8V2B
1SMB3EZ8.7	8.7	8.27	9.14	2	85	700	0.5	4	6.6	8V7B
1SMB3EZ9.1	9.1	8.65	9.56	3	82	700	0.5	3	7	9V1B
1SMB3EZ10	10	9.5	10.5	4	75	700	0.25	3	7.6	10B
1SMB3EZ11	11	10.45	11.55	4	68	700	0.25	1	8.4	11B
1SMB3EZ12	12	11.4	12.6	5	63	700	0.25	1	9.1	12B
1SMB3EZ13	13	12.35	13.65	5	58	700	0.25	0.5	9.9	13B
1SMB3EZ14	14	13.3	14.7	5	53	700	0.25	0.5	10.6	14B
1SMB3EZ15	15	14.25	15.75	6	50	700	0.25	0.5	11.4	15B
1SMB3EZ16	16	15.2	16.8	6	47	700	0.25	0.5	12.2	16B
1SMB3EZ17	17	16.15	17.85	6	44	750	0.25	0.5	13	17B
1SMB3EZ18	18	17.1	18.9	6	42	750	0.25	0.5	13.7	18B
1SMB3EZ19	19	18.05	19.95	7	40	750	0.25	0.5	14.4	19B
1SMB3EZ20	20	19	21	7	37	750	0.25	0.5	15.2	20B
1SMB3EZ22	22	20.9	23.1	8	34	750	0.25	0.5	16.7	22B
1SMB3EZ24	24	22.8	25.2	9	31	750	0.25	0.5	18.2	24B
1SMB3EZ25	25	23.75	26.25	10	30	750	0.25	0.5	19	25B
1SMB3EZ27	27	25.65	28.35	10	28	750	0.25	0.5	20.6	27B
1SMB3EZ28	28	26.6	29.4	12	27	750	0.25	0.5	21.3	28B
1SMB3EZ30	30	28.5	31.5	16	25	1000	0.25	0.5	22.5	30B
1SMB3EZ33	33	31.35	34.65	20	23	1000	0.25	0.5	25.1	33B
1SMB3EZ36	36	34.2	37.8	22	21	1000	0.25	0.5	27.4	36B
1SMB3EZ39	39	37.05	40.95	28	19	1000	0.25	0.5	29.7	39B
1SMB3EZ43	43	40.85	45.15	33	17	1500	0.25	0.5	32.7	43B
1SMB3EZ47	47	44.65	49.35	38	16	1500	0.25	0.5	35.8	47B
1SMB3EZ51	51	48.45	53.55	45	15	1500	0.25	0.5	38.8	51B

ZENER DIODES

TYPICAL CHARACTERISTICS

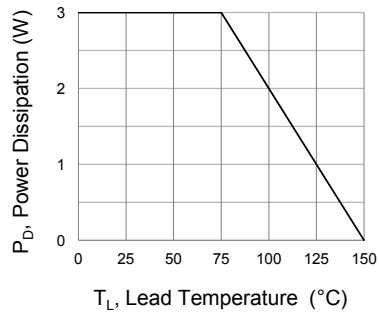


Fig.1 Steady-State Power Derating Curve

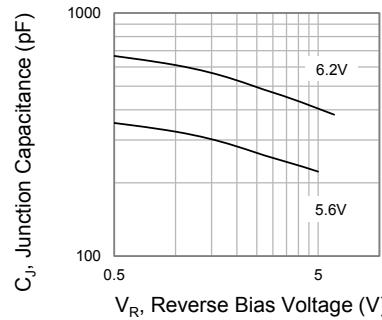


Fig.2 Typical Junction Capacitance

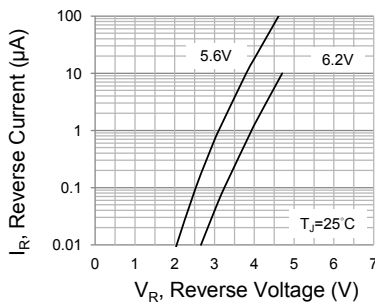


Fig.3 Typical Leakage Characteristics

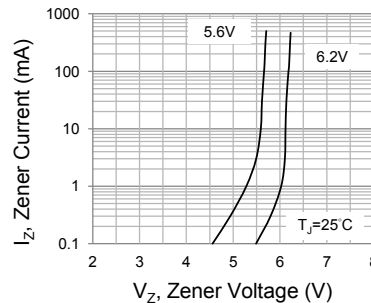


Fig.4 Typical Zener Characteristics

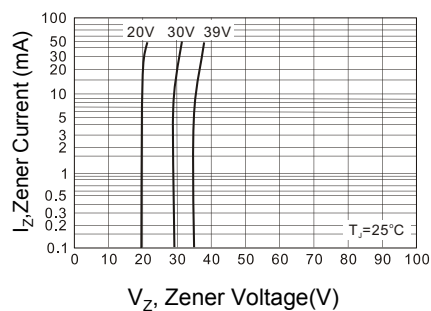


Fig.5 Typical Zener Characteristics

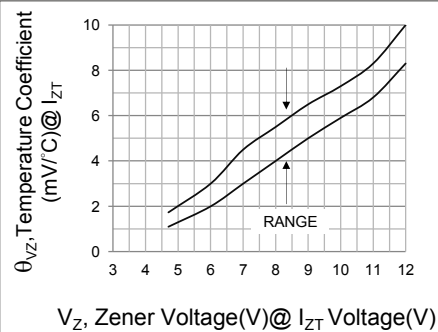


Fig.6 Units 5.6 To 12 Volts

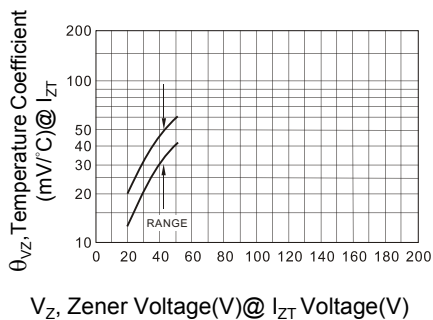
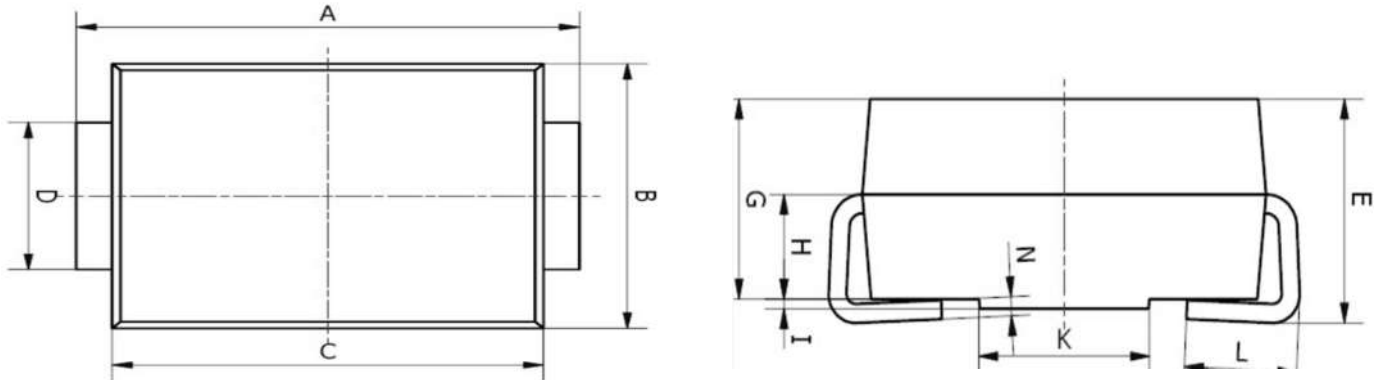
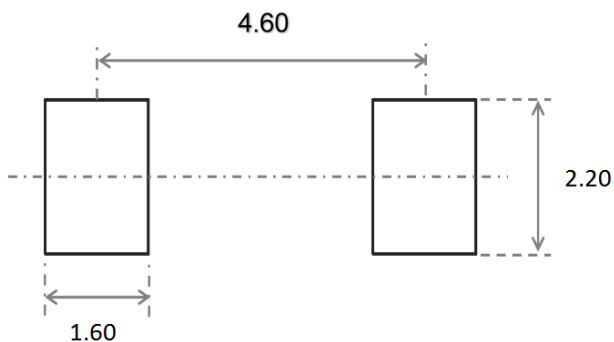


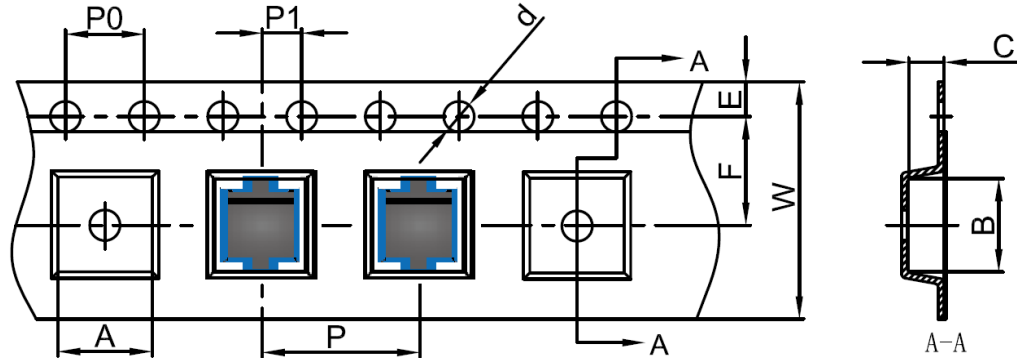
Fig.7 Units 10 To 51 Volts

ZENER DIODES
SMB Package Outline Dimensions


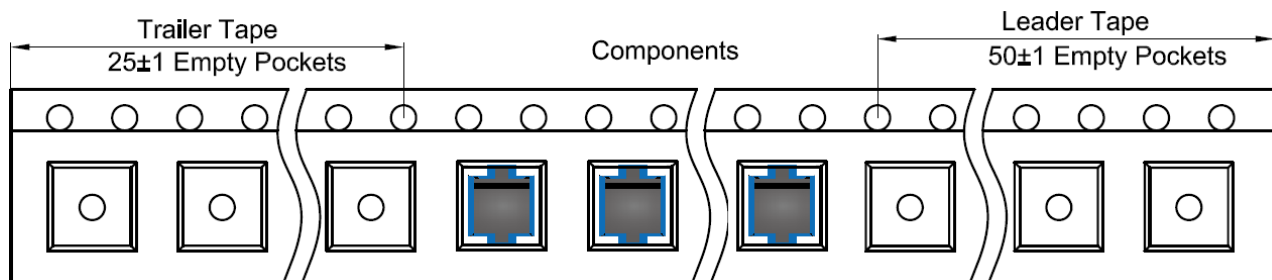
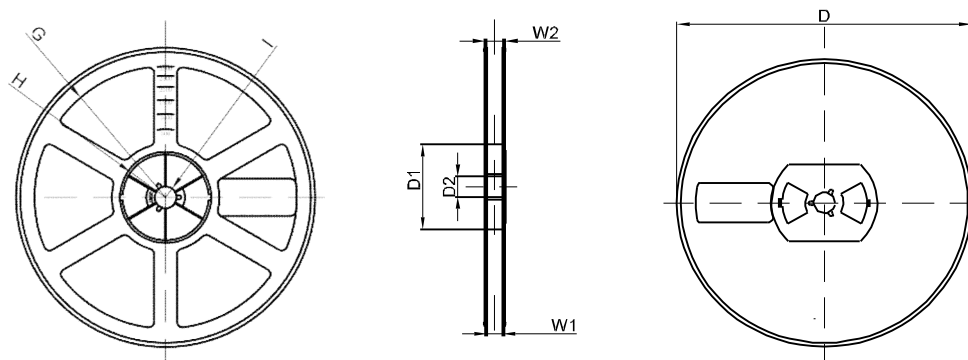
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	5.00	5.45	0.197	0.215
B	3.20	4.00	0.126	0.157
C	4.30	4.70	0.169	0.185
D	1.80	2.20	0.071	0.087
E	2.20	2.50	0.087	0.098
G	1.90	2.30	0.075	0.090
H	0.95	1.25	0.037	0.049
I	0.05	0.15	0.002	0.006
K	1.70	2.10	0.067	0.083
L	0.90	1.60	0.035	0.063
N	0.10	0.30	0.004	0.012

SMB Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

ZENER DIODES
SMB Tape and Reel
SMB Embossed Carrier Tape


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMB	4.10	5.50	2.58	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMB Tape Leader and Trailer

SMB Reel


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330	75.0	13.00	R165	R37.50	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1