

## Silicon Planar Zener Diodes

### Features

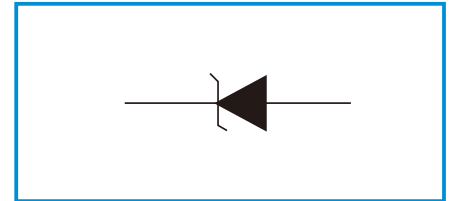
- Total power dissipation: Max. 3 W.
- Wide zener reverse voltage range 3.3V to 200V.
- Small plastic package suitable for surface mounted design.



### Mechanical Data

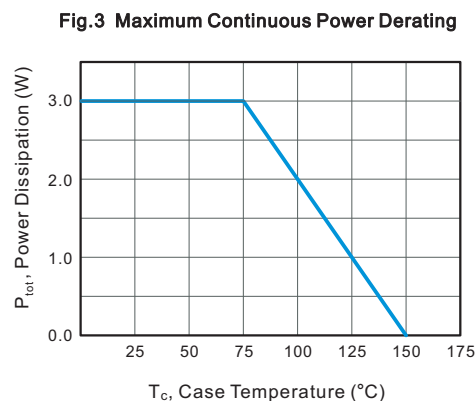
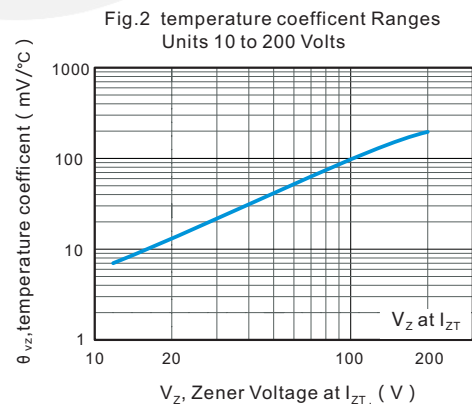
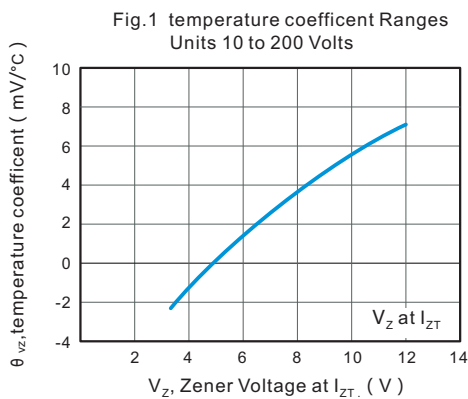
- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 27mg 0.00095oz

Functional Diagram



### Maximum Ratings and Electrical characteristics (TA=25°C)

Parameter	Symbol	Value	Unit
Maximum Steady State Power Dissipation at T <sub>c</sub> =75°C	P <sub>tot</sub>	3	W
Typical Thermal Resistance Junction to Lead	R <sub>θJC</sub>	25	°C/W
Forward Voltage at I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.2	V
Junction Temperature Range	T <sub>j</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C



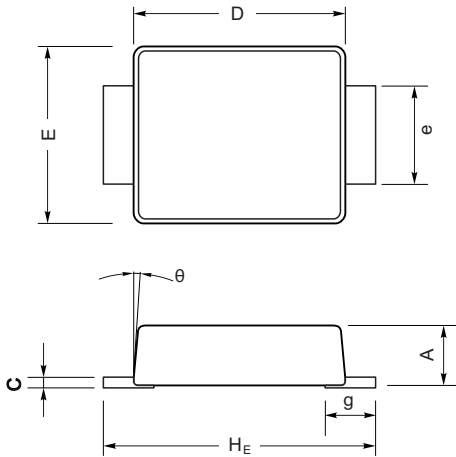
**Electrical Characteristics (TA=25°C)**

Type (note1)	Marking (note1)	Zener Voltage Range (note2)				Dynamic Impedance	Reverse Current		Admissible Zener Current
		V <sub>ZT</sub> (at I <sub>ZT</sub> )			at I <sub>ZT</sub>		I <sub>R</sub>	at V <sub>R</sub>	
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)	I <sub>ZM</sub> (mA)
LT5913B3E	913B	3.10	3.3	3.50	114	10	100	1	454
LT5914B3E	914B	3.40	3.6	3.80	104	9.0	75	1	416
LT5915B3E	915B	3.70	3.9	4.10	96	7.5	25	1	384
LT5916B3E	916B	4.06	4.3	4.56	87	6.0	5	1	348
LT5917B3E	917B	4.50	4.7	4.93	80	5.0	5	1	319
LT5918B3E	918B	4.84	5.1	5.36	74	4.0	5	2	294
LT5919B3E	919B	5.32	5.6	5.92	67	2.0	5	3	267
LT5920B3E	920B	5.86	6.2	6.51	61	2.0	5	4	241
LT5921B3E	921B	6.46	6.8	7.18	55	2.5	5	5	220
LT5922B3E	922B	7.12	7.5	7.88	50	3.0	5	6	200
LT5923B3E	923B	7.79	8.2	8.67	46	3.5	5	6	182
LT5924B3E	924B	8.60	9.1	9.59	41	4.0	5	7	164
LT5925B3E	925B	9.50	10	10.5	38	4.5	5	7	150
LT5926B3E	926B	10.4	11	11.6	34	5.5	1	8	136
LT5927B3E	927B	11.4	12	12.6	31	6.5	1	9	125
LT5928B3E	928B	12.4	13	14.1	29	7.0	1	10	115
LT5929B3E	929B	13.8	15	15.8	25	9.0	1	11	100
LT5930B3E	930B	15.2	16	17.1	23	10	1	12	93
LT5931B3E	931B	16.8	18	19.2	21	12	1	13	83
LT5932B3E	932B	19.0	20	21.2	19	14	1	15	75
LT5933B3E	933B	20.8	22	23.3	17	18	1	17	68
LT5934B3E	934B	22.8	24	26.0	16	19	1	19	62
LT5935B3E	935B	25.3	27	28.9	14	23	1	21	55
LT5936B3E	936B	28.2	30	32.0	12.5	26	1	23	50
LT5937B3E	937B	31.3	33	34.9	11.4	33	1	25	45
LE5938B3E	938B	34.2	36	37.9	10.4	38	1	27	41
LT5939B3E	939B	37.2	39	41.5	9.6	45	1	30	38
LT5940B3E	940B	40.9	43	45.6	8.7	53	1	33	34
LT5941B3E	941B	44.9	47	49.8	8.0	67	1	36	31
LT5942B3E	942B	48.6	51	54.0	7.3	70	1	39	29
LT5943B3E	943B	53.6	56	58.8	6.7	86	1	42	26
LE5944B3E	944B	58.9	62	65.6	6.0	100	1	47	24
LT5945B3E	945B	64.6	68	71.7	5.5	120	1	52	22
LT5946B3E	946B	71.2	75	78.8	5.0	140	1	57	20
LT5947B3E	947B	77.9	82	87.0	4.6	160	1	62	18
LT5948B3E	948B	86.0	91	96.0	4.1	200	1	69	16
LT5949B3E	949B	95.0	100	105	3.7	250	1	76	15
LT5950B3E	950B	104	110	116	3.4	300	1	84	13
LT5951B3E	951B	114	120	127	3.1	380	1	91	12
LT5952B3E	952B	125	135	142	2.8	470	1	100	11
LT5953B3E	953B	140	150	157	2.5	600	1	110	10
LT5954B3E	954B	155	165	172	2.3	720	1	120	9.0
LT5955B3E	955B	170	180	191	2.1	900	1	135	8.0
LT5956B3E	956B	189	200	211	1.9	1200	1	150	7.5

(1) Suffix "A" indicates ±10% tolerance, Suffix "B" indicates ±5% tolerance, No suffix according to the values in the table.

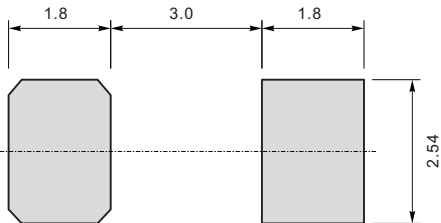
(2) V<sub>ZT</sub> is tested with pulses (20 ms)

## SMBF Package Outline



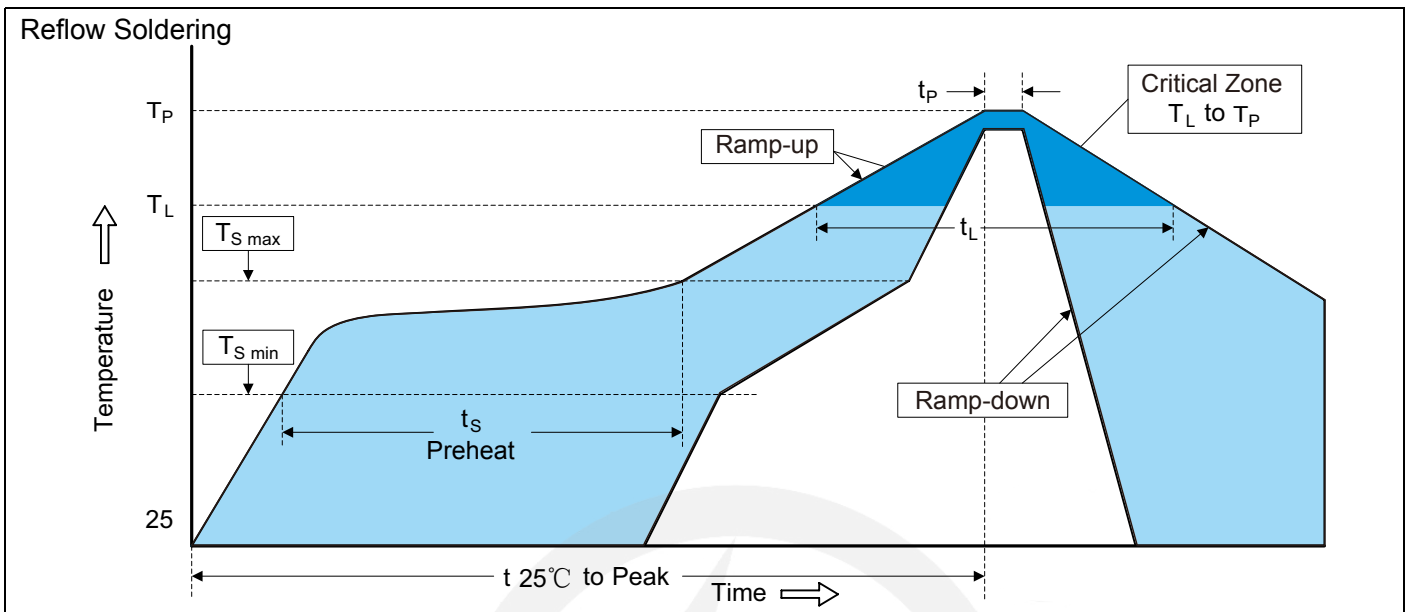
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.10	1.30
C	0.18	0.26
D	4.20	4.40
E	3.50	3.70
e	1.90	2.20
H <sub>E</sub>	5.10	5.50
$\theta$	0.12	

## SMBF Suggested Pad Layout



### Note:

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

**Recommended Soldering Conditions**

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Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat -Temperature Min ( $T_{S\ min}$ ) -Temperature Max ( $T_{S\ max}$ ) -Time (min to max) ( $t_s$ )	150°C 200°C 60-180 seconds
$T_{S\ max}$ to $T_L$ -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature ( $T_L$ ) -Time ( $t_L$ )	217°C 60-150 seconds
Peak Temperature ( $T_P$ )	260°C
Time within 5°C of actual Peak Temperature ( $t_P$ )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

**Packaging**

13" Reel


 D5  $\Phi 330.0 \pm 2.0$ 

 D6  $\Phi 13.5 \pm 0.5$ 

 H  $2.5 \pm 1.0$ 

 W2  $16.0 \pm 2.0$ 

Quantity: 5000PCS