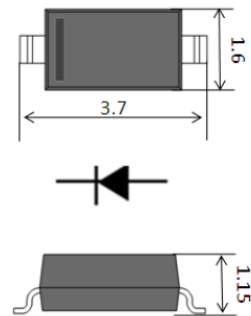


**Features**

- Constant Voltage control
- Wide Voltage Range Selection 2.4V to 47V
- RoHS compliant/Green EMC
- Meets MSL level 1, Per J-STD-020, LF maximum peak of 260°C
- Matte Tin(Sn) Lead finish
- Cathode Band/Device marking  
Refer to table list
- Complies with the standards of AEC-Q101


**SOD-123**

**Maximum Ratings (Ta=25°C)**

Symbol	Parameter	Value	Units
P <sub>D</sub>	Power Dissipation at TL = 75°C (Note 1)	350	mW
P <sub>D</sub>	Power Dissipation at TA= 25°C (Note 2)	500	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +125	°C
I <sub>ZM</sub>	Maximum Regulator Current	P <sub>D</sub> /V <sub>Z</sub>	mA
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	357	°C/W
V <sub>F</sub>	Maximum Instantaneous Forward Voltage at 1mA	0.9	V

Note: 1. Mounted on ceramic substrate with 25mm<sup>2</sup>copper pads.  
 2. Mounted on ceramic substrate with 40mm<sup>2</sup>copper pads.

**Electrical Characteristics (T =25°C unless otherwise noted)**

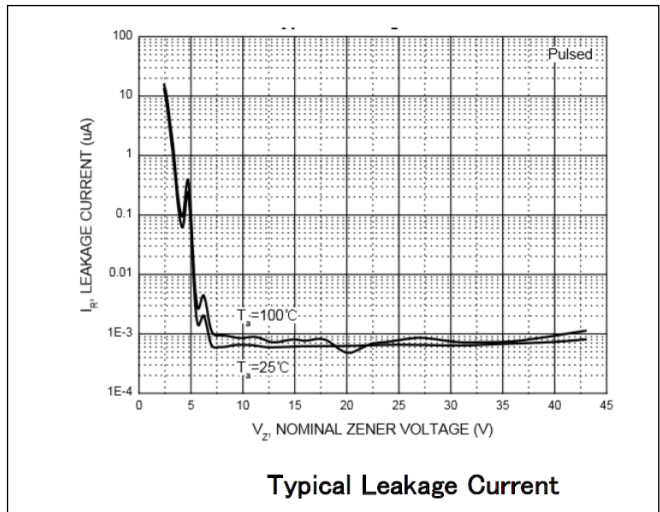
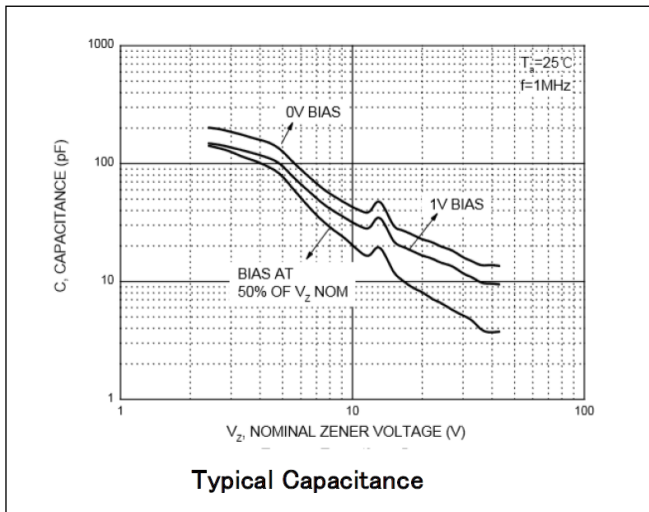
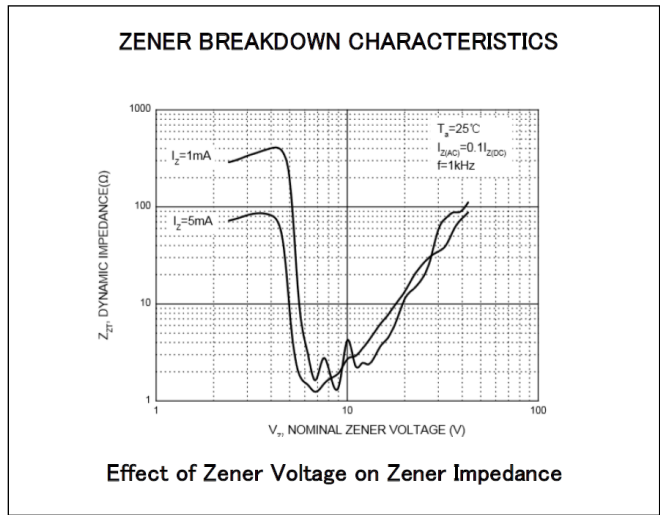
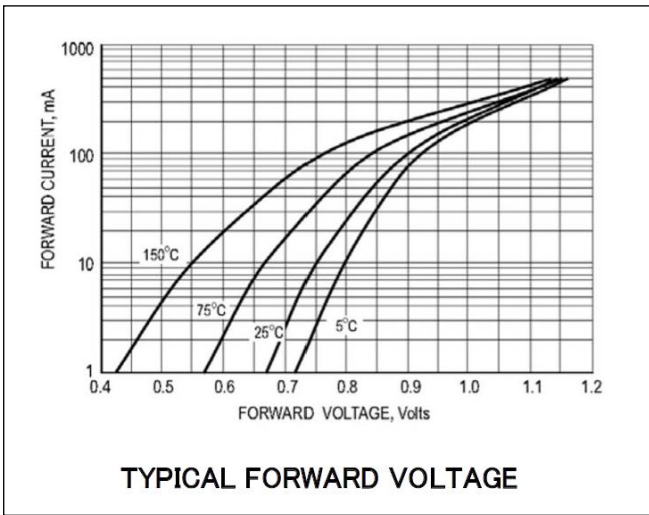
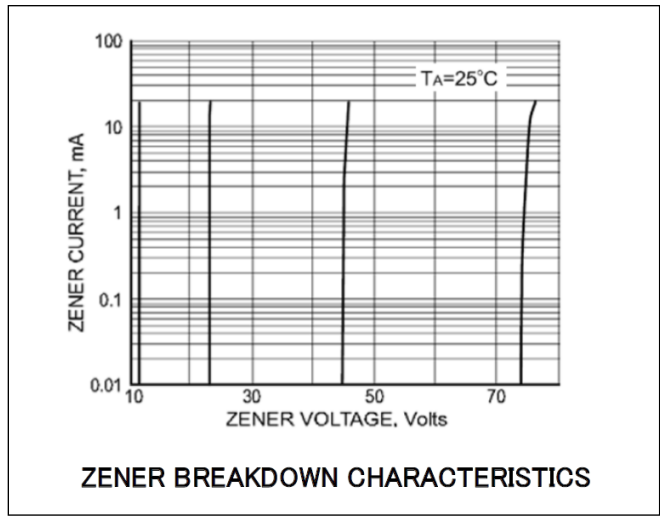
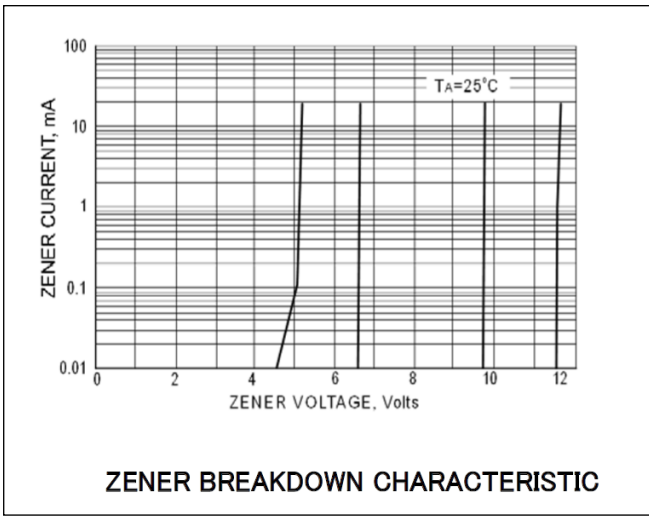
Type Number	Device Marking	V <sub>Z</sub> (V) (Note 1)			I <sub>ZT</sub> mA	Z <sub>ZT</sub> @I <sub>ZT</sub> Ω	Z <sub>ZK</sub> @I <sub>ZK</sub> Ω	I <sub>ZK</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)
		Nom(V)	Min(V)	Max(V)						
SZT52B2V4-AT	2WX	2.4	2.35	2.45	5	100	600	1.0	50	1.0
SZT52B2V7-AT	2W1	2.7	2.65	2.75	5	100	600	1.0	20	1.0
SZT52B3V0-AT	2W2	3.0	2.94	3.06	5	95	600	1.0	10	1.0
SZT52B3V3-AT	2W3	3.3	3.23	3.37	5	95	600	1.0	5	1.0
SZT52B3V6-AT	2W4	3.6	3.53	3.67	5	90	600	1.0	5	1.0
SZT52B3V9-AT	2W5	3.9	3.82	3.98	5	90	600	1.0	3	1.0
SZT52B4V3-AT	2W6	4.3	4.21	4.39	5	90	600	1.0	3	1.0
SZT52B4V7-AT	2W7	4.7	4.61	4.79	5	80	500	1.0	3	2.0
SZT52B5V1-AT	2W8	5.1	5.00	5.20	5	60	480	1.0	2	2.0
SZT52B5V6-AT	2W9	5.6	5.49	5.71	5	40	400	1.0	1	2.0
SZT52B6V2-AT	2WA	6.2	6.08	6.32	5	10	150	1.0	3	4.0
SZT52B6V8-AT	2WB	6.8	6.66	6.94	5	15	80	1.0	2	4.0
SZT52B7V5-AT	2WC	7.5	7.35	7.65	5	15	80	1.0	1	5.0
SZT52B8V2-AT	2WD	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0

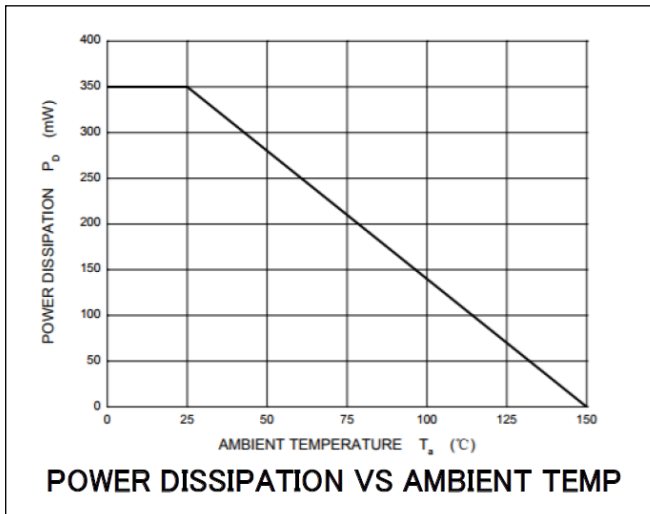


Type Number	Device Marking	Vz (V) (Note 1)			I <sub>T</sub> mA	Z <sub>T</sub> @ I <sub>T</sub> Ω	Z <sub>K</sub> @ I <sub>ZK</sub> Ω	I <sub>ZK</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V) Max
		Nom(V)	Min(V)	Max(V)						
SZT52B9V1-AT	2WE	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0
SZT52B10-AT	2WF	10	9.80	10.20	5	20	150	1.0	0.2	7.0
SZT52B11-AT	2WG	11	10.78	11.22	5	20	150	1.0	0.1	8.0
SZT52B12-AT	2WH	12	11.76	12.24	5	25	150	1.0	0.1	8.0
SZT52B13-AT	2WI	13	12.74	13.26	5	30	170	1.0	0.1	8.0
SZT52B14-AT	2WY	14	13.72	14.28	5	25	110	1.0	0.1	10.5
SZT52B15-AT	2WJ	15	14.70	15.30	5	30	200	1.0	0.1	10.5
SZT52B16-AT	2WK	16	15.68	16.32	5	40	200	1.0	0.1	11.2
SZT52B18-AT	2WL	18	17.64	18.36	5	45	225	1.0	0.1	12.6
SZT52B20-AT	2WM	20	19.60	20.40	5	55	225	1.0	0.1	14.0
SZT52B22-AT	2WN	22	21.56	22.44	5	55	250	1.0	0.1	15.4
SZT52B24-AT	2WO	24	23.52	24.48	5	70	250	1.0	0.1	16.8
SZT52B27-AT	2WP	27	26.46	27.54	2	80	300	0.5	0.1	18.9
SZT52B30-AT	2WQ	30	29.40	30.60	2	80	300	0.5	0.1	21.0
SZT52B33-AT	2WR	33	32.34	33.66	2	80	325	0.5	0.1	23.1
SZT52B36-AT	2WS	36	35.28	36.72	2	90	350	0.5	0.1	25.2
SZT52B39-AT	2WT	39	38.22	39.78	2	130	350	0.5	0.1	27.3
SZT52B43-AT	2WU	43	42.14	43.86	2	130	350	0.5	0.1	29.4
SZT52B47-AT	2WV	47	45.83	48.17	2	170	1000	0.25	0.1	36

Note1:Pulse Width=10ms

Typical Characteristics

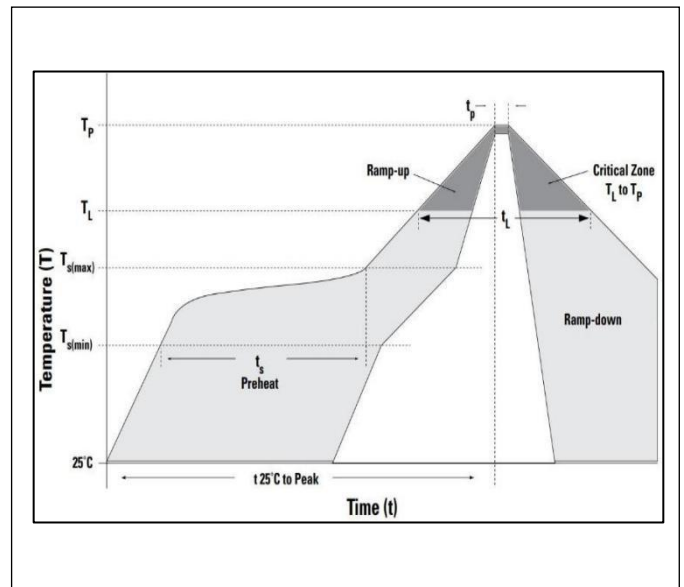




### Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (min to max) ( $t_s$ )	60 – 120 secs
Average ramp up rate (Liquidus Temp ( $T_A$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_A$ - Ramp-up Rate		3°C/second max
Reflow	- Temperature ( $T_A$ ) (Liquidus)	217°C
	- Time (min to max) ( $t_s$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260 <sup>+0/-5</sup> °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 ( $T_p$ )		8 minutes Max.
Do not exceed		260°C

### Soldering profile

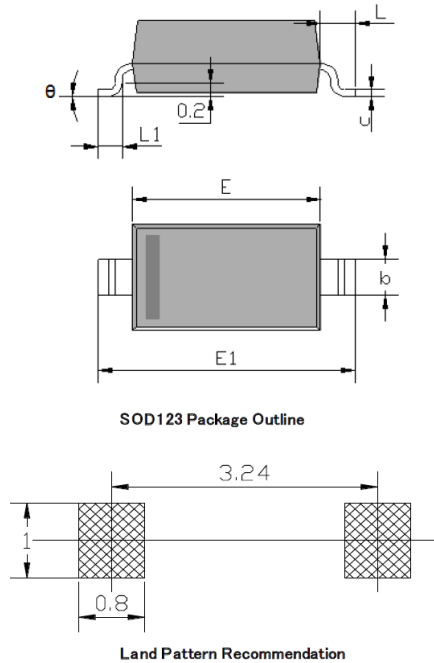


### Order Information

Device	Package	Shipping	Notes
SZT52B-AT Series	SOD123	Tape & Reel 3000pcs /7" Reel	

Package Dimensions

SOD-123



Unit	A	A1	A2	b	c	D	E	E1	L	L1	$\theta$
Max.	1.25	0.10	1.15	0.65	0.15	1.70	2.80	3.85	0.500	0.45	8°
Min.	1.05	0.00	1.05	0.45	0.08	1.50	2.60	3.55	REF.	0.25	0°

- Note:
1. Halogen free,EMC
  2. Pb free solder
  3. Lead thickness includes solder plating
  4. Lead frame: A42
  5. Other Tolerance:  $\pm 0.05$
  6. Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
  7. Unit: mm

Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	13-Aug-2021
1.1	Update Key Marking	10-Jul-2023
1.2	Add MSL Level Add Soldering Parameters Add Soldering profile Update PD (Power Dissipation)	7-Apr-2024
1.3	Add VF	9- Apr-2024