



# 1SMB5921-AU ~ 1SMB5942-AU Series

## SILICON ZENER DIODE

**Voltage**

**6.8~51 V**

**Power**

**1.5 W**

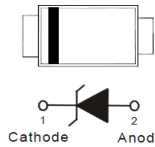
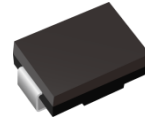
### Features

- Silicon planar Zener diode
- Low profile surface-mount package
- Low leakage current
- Excellent stability
- High temperature soldering: 260 °C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

### Mechanical Data

- Case: SMB, plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0032 ounces, 0.092 grams

**SMB**



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation on T <sub>L</sub> = 75 °C Derate above 75 °C	P <sub>D</sub> <sup>(1)</sup>	1.5	W
Typical Thermal Resistance	R <sub>θJA</sub> <sup>(2)</sup>	135	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C



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### Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Part Number	Nominal Zener Voltage				Nominal 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	mA	$\Omega$	mA	$\Omega$	mA	uA	V	
1SMB5921-AU	6.8	6.46	7.14	55.1	3	55.1	200	1	5	5.2	921B
1SMB5922-AU	7.5	7.13	7.88	50	3	50	400	0.5	5	6	922B
1SMB5923-AU	8.2	7.79	8.61	45.7	4	45.7	400	0.5	5	6.5	923B
1SMB5924-AU	9.1	8.65	9.56	41.2	4	41.2	500	0.5	5	7	924B
1SMB5925-AU	10	9.5	10.5	37.5	5	37.5	500	0.25	5	8	925B
1SMB5926-AU	11	10.45	11.55	34.1	6	34.1	550	0.25	1	8.4	926B
1SMB5927-AU	12	11.4	12.6	31.2	7	31.2	550	0.25	1	9.1	927B
1SMB5928-AU	13	12.35	13.65	28.8	7	28.8	550	0.25	1	9.9	928B
1SMB5929-AU	15	14.25	15.75	25	9	25	600	0.25	1	11.4	929B
1SMB5930-AU	16	15.2	16.8	23.4	10	23.4	600	0.25	1	12.2	930B
1SMB5931-AU	18	17.1	18.9	20.8	12	20.8	650	0.25	1	13.7	931B
1SMB5932-AU	20	19	21	18.7	14	18.7	650	0.25	1	15.2	932B
1SMB5933-AU	22	20.9	23.1	17	18	17	650	0.25	1	16.7	933B
1SMB5934-AU	24	22.8	25.2	15.6	19	15.6	700	0.25	1	18.2	934B
1SMB5935-AU	27	25.65	28.35	13.9	23	13.9	700	0.25	1	20.6	935B
1SMB5936-AU	30	28.5	31.5	12.5	26	12.5	750	0.25	1	22.8	936B
1SMB5937-AU	33	31.35	34.65	11.4	33	11.4	800	0.25	1	25.1	937B
1SMB5938-AU	36	34.2	37.8	10.4	38	10.4	850	0.25	1	27.4	938B
1SMB5939-AU	39	37.05	40.95	9.6	45	9.6	900	0.25	1	29.7	939B
1SMB5940-AU	43	40.85	45.15	8.7	53	8.7	950	0.25	1	32.7	940B
1SMB5941-AU	47	44.65	49.35	8	67	8	1000	0.25	1	35.8	941B
1SMB5942-AU	51	48.45	53.55	7.3	70	7.3	1100	0.25	1	38.8	942B

**NOTES:**

1. Mounted on a FR-4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.
2. Mounted on a FR-4 PCB, single-sided copper, mini pad .



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## TYPICAL CHARACTERISTIC CURVES

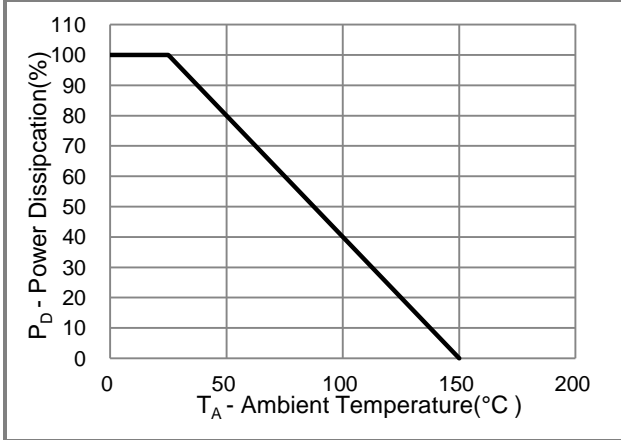


Fig.1 Power Derating Curve

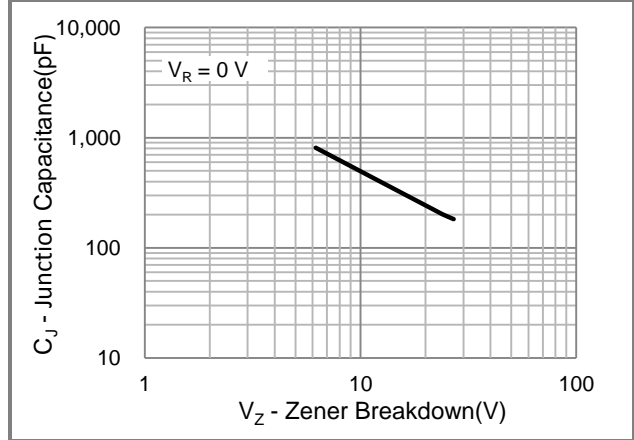


Fig.2 Typical Junction Capacitance

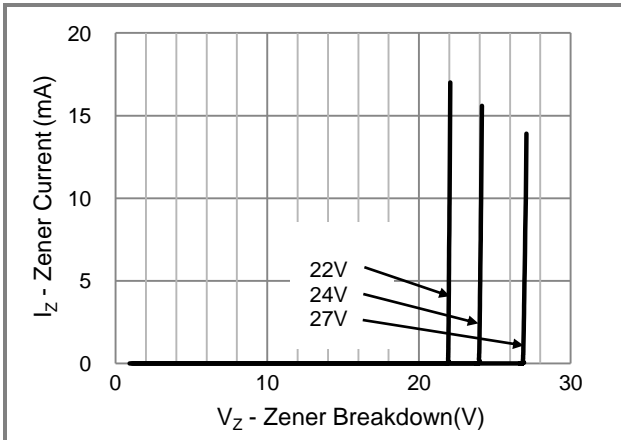


Fig.3 Typical Zener Breakdown

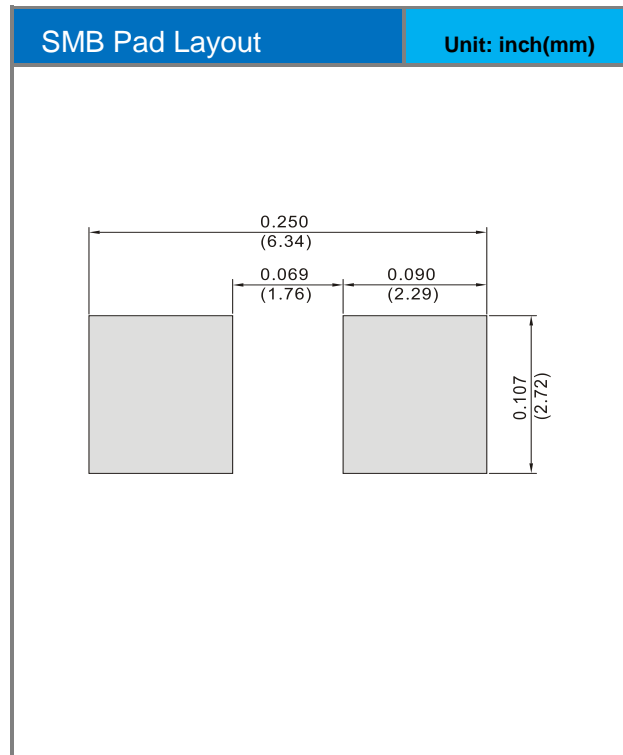
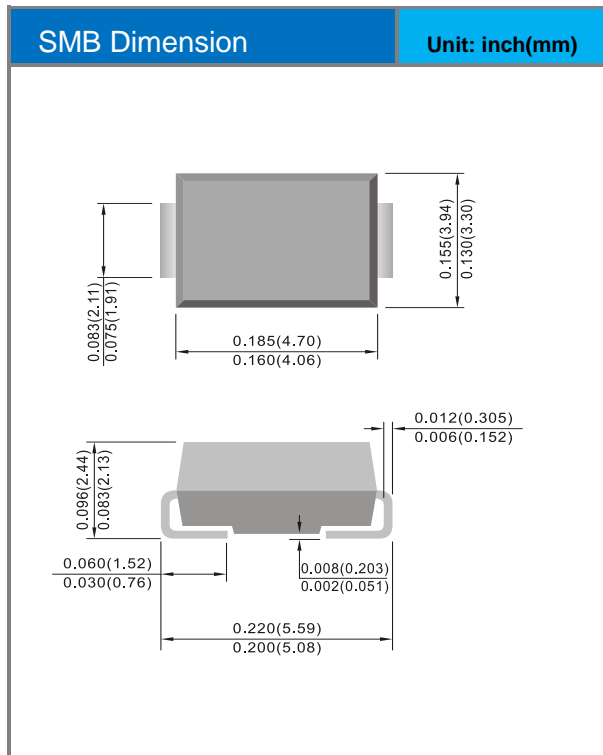


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## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
1SMB59xx-AU_R2_000A1	SMB	3K pcs / 13" reel	See Table	Halogen free

## Packaging Information & Mounting Pad Layout





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