



# 1SMB2EZ6.8-AU ~ 1SMB2EZ51-AU Series

## SILICON ZENER DIODE

**Voltage**

**6.8~51 V**

**Power**

**2 W**

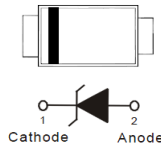
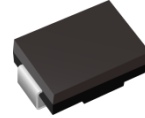
### Features

- Glass passivated junction
- Low inductance
- Typical  $I_D$  less than 1uA above 11V
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 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 ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation on $T_L = 50^\circ\text{C}$ Derate above $50^\circ\text{C}$	$P_D^{(1)}$	2	W
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	15	A
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$



## 1SMB2EZ6.8-AU ~ 1SMB2EZ51-AU Series

**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	$\mu\text{A}$	V	
1SMB2EZ6.8-AU	6.8	6.46	7.14	73.5	2	73.5	700	1	5	4	2006
1SMB2EZ7.5-AU	7.5	7.13	7.88	66.5	2	66.5	700	0.5	5	5	2007
1SMB2EZ8.2AU	8.2	7.79	8.61	61	2	61	700	0.5	5	6	2008
1SMB2EZ8.7-AU	8.7	8.27	9.14	58	2	58	700	0.5	4	6.6	20A8
1SMB2EZ9.1-AU	9.1	8.65	9.56	55	3	55	700	0.5	3	7	2009
1SMB2EZ10-AU	10	9.5	10.5	50	4	50	700	0.25	3	7.6	2010
1SMB2EZ11-AU	11	10.45	11.55	45.5	4	45.5	700	0.25	1	8.4	2011
1SMB2EZ12AU	12	11.4	12.6	41.5	5	41.5	700	0.25	1	9.1	2012
1SMB2EZ13-AU	13	12.35	13.65	38.5	5	38.5	700	0.25	0.5	9.9	2013
1SMB2EZ14-AU	14	13.3	14.7	35.7	6	35.7	700	0.25	0.5	10.6	2014
1SMB2EZ15-AU	15	14.25	15.75	33.4	7	33.4	700	0.25	0.5	11.4	2015
1SMB2EZ16-AU	16	15.2	16.8	31.2	8	31.2	700	0.25	0.5	12.2	2016
1SMB2EZ17-AU	17	16.15	17.85	29.4	9	29.4	750	0.25	0.5	13	2017
1SMB2EZ18-AU	18	17.1	18.9	27.8	10	27.8	750	0.25	0.5	13.7	2018
1SMB2EZ19-AU	19	18.05	19.95	26.3	11	26.3	750	0.25	0.5	14.4	2019
1SMB2EZ20-AU	20	19	21	25	11	25	750	0.25	0.5	15.2	2020
1SMB2EZ22-AU	22	20.9	23.1	22.8	12	22.8	750	0.25	0.5	16.7	2022
1SMB2EZ24-AU	24	22.8	25.2	20.8	13	20.8	750	0.25	0.5	18.2	2024
1SMB2EZ25-AU	25	23.75	26.25	20	14	20	750	0.25	0.5	19	2025
1SMB2EZ27-AU	27	25.65	28.35	18.5	18	18.5	750	0.25	0.5	20.6	2027
1SMB2EZ28-AU	28	26.6	29.4	17	18	17	750	0.25	0.5	21.3	2028
1SMB2EZ30-AU	30	28.5	31.5	16.6	20	16.6	1000	0.25	0.5	22.5	2030
1SMB2EZ33-AU	33	31.35	34.65	15.1	23	15.1	1000	0.25	0.5	25.1	2033
1SMB2EZ36-AU	36	34.2	37.8	13.9	25	13.9	1000	0.25	0.5	27.4	2036
1SMB2EZ39-AU	39	37.05	40.95	12.8	30	12.8	1000	0.25	0.5	29.7	2039
1SMB2EZ43-AU	43	40.85	45.15	11.6	35	11.6	1500	0.25	0.5	32.7	2043
1SMB2EZ47-AU	47	44.65	49.35	10.6	40	10.6	1500	0.25	0.5	35.8	2047
1SMB2EZ51-AU	51	48.45	53.55	9.8	48	9.8	1500	0.25	0.5	38.8	2051



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NOTES:

1. Mounted on 5mm<sup>2</sup> (0.013mm thick) land areas.
2. Measured on 8.3ms, and single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum



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## TYPICAL CHARACTERISTIC CURVES

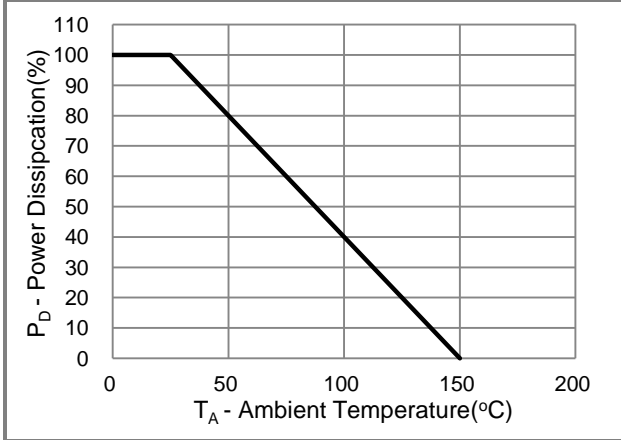


Fig.1 Power Derating Curve

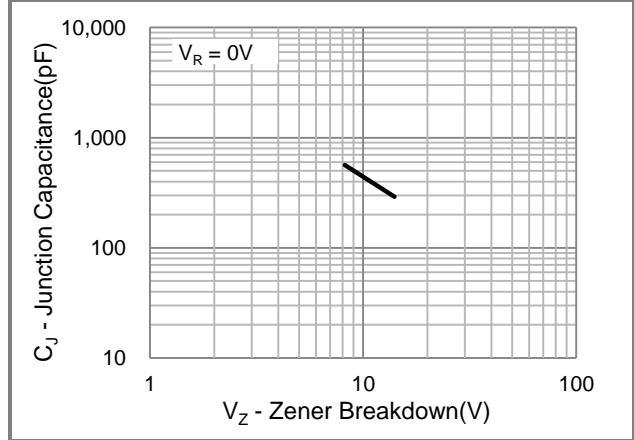


Fig.2 Typical Junction Capacitance

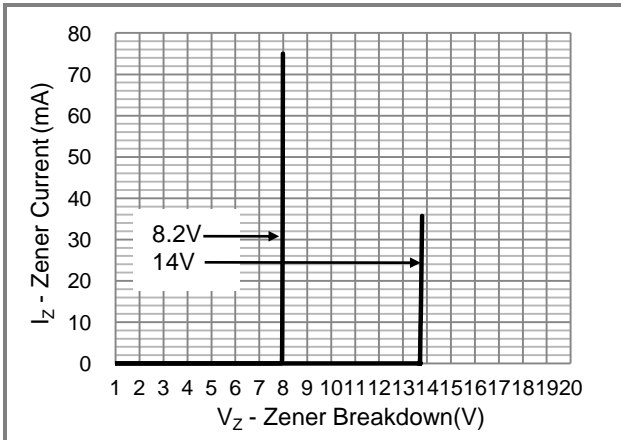


Fig.3 Typical Zener Breakdown

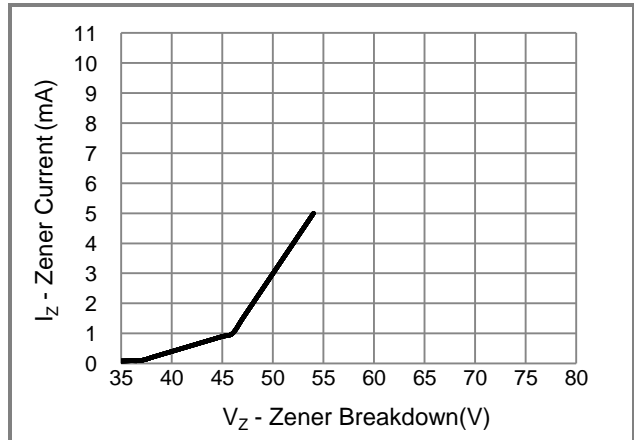


Fig.4 Typical Junction Capacitance

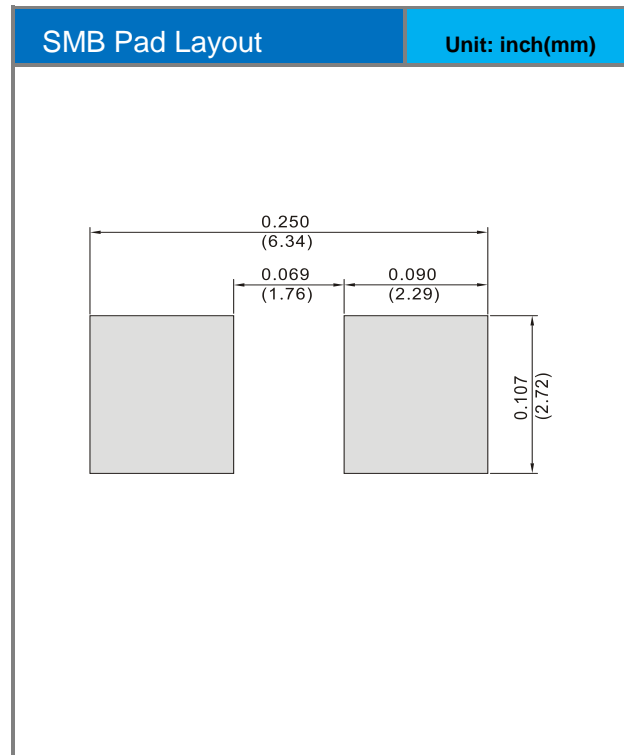
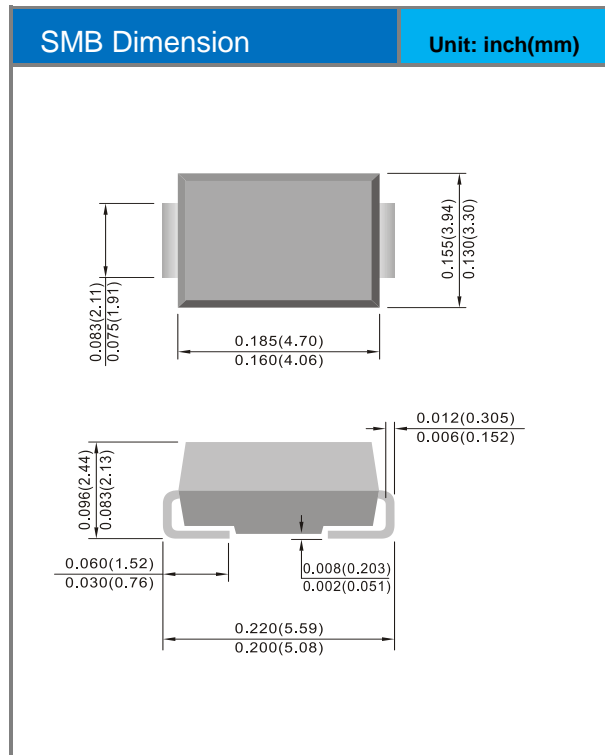


# 1SMB2EZ6.8-AU ~ 1SMB2EZ51-AU Series

## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
1SMB2EZxx-AU_R2_000A1	SMB	3K pcs / 13" reel	See Table	Halogen free

## Packaging Information & Mounting Pad Layout





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