



TAYCHIPST



Surface Mount Power Voltage-Regulating Diodes

SMBZ5919B THRU SMBZ5945B

5.6V-68V 0.55W

FEATURES

- Low profile package
- Ideal for automated placement
- Low Zener impedance
- Low regulation factor
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

MECHANICAL DATA

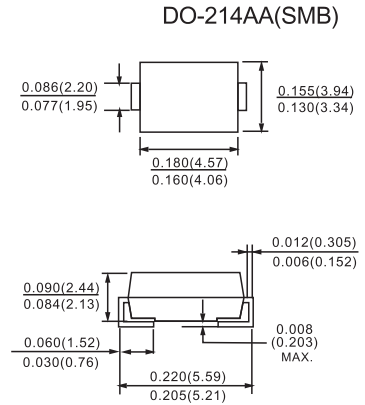
Case: DO-214AA(SMB)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Maximum steady state power dissipation at $T_L = 75\text{ }^\circ\text{C}$ (Fig. 1)	P_D	3.0	W
Maximum steady state power dissipation at $T_A = 25\text{ }^\circ\text{C}$ (Fig. 1) ⁽¹⁾	P_D	550	mW
Maximum instantaneous forward voltage at 200 mA for all types ⁽²⁾	V_F	1.5	V
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	$^\circ\text{C}$

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	LIMIT	UNIT
Typical thermal resistance, junction to lead	$R_{\theta JL}$	25	$^\circ\text{C/W}$
Typical thermal resistance, junction to ambient ⁽¹⁾	$R_{\theta JA}$	226	$^\circ\text{C/W}$

Notes:

- (1) Mounted on P.C.B. with 5.0 x 5.0 mm copper pads attached to each terminal
- (2) Mounted on minimum recommended pad layout
- (3) Pulse test: 300 μs pulse width, 1 % duty cycle





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ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)											
PART NUMBER	DEVICE MARKING CODE	ZENER VOLTAGE V_Z AT I_{ZT} (V)			TEST CURRENT I_{ZT} (mA)	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE LEAKAGE CURRENT I_R AT V_R		MAXIMUM ZENER CURRENT I_{ZM} (mA)
		MIN.	NOM.	MAX.		Z_{ZT} AT I_{ZT}	Z_{ZK} AT I_{ZK}		μA	(V)	
						(Ω)	(Ω)	(mA)			
SMBZ5919B	19B	5.32	5.6	5.88	66.9	5	700	1	200	3	267
SMBZ5920B	20B	5.89	6.2	6.51	60.5	2	700	1	200	4	241
SMBZ5921B	21B	6.46	6.8	7.14	55.1	2.5	400	1	200	5.2	220
SMBZ5924B	24B	8.64	9.1	9.56	41.2	4.0	1000	0.5	25	7.0	164
SMBZ5925B	25B	9.5	10	10.5	37.5	4.5	1000	0.25	25	8.0	150
SMBZ5926B	26B	10.5	11	11.6	34.1	5.5	550	0.25	5	8.4	136
SMBZ5927B	27B	11.4	12	12.6	31.2	6.5	550	0.25	1	9.1	125
SMBZ5928B	28B	12.4	13	13.7	28.8	7.0	550	0.25	1	9.9	115
SMBZ5929B	29B	14.3	15	15.8	25.0	9.0	600	0.25	1	11.4	100
SMBZ5930B	30B	15.2	16	16.8	23.4	10.0	600	0.25	1	12.2	93
SMBZ5931B	31B	17.1	18	18.9	20.8	12.0	650	0.25	1	13.7	83
SMBZ5932B	32B	19.0	20	21.0	18.7	14.0	650	0.25	1	15.2	75
SMBZ5933B	33B	20.9	22	23.1	17.0	17.5	650	0.25	1	16.7	68
SMBZ5934B	34B	22.8	24	25.2	15.6	19.0	700	0.25	1	18.2	62
SMBZ5935B	35B	25.7	27	28.4	13.9	23.0	700	0.25	1	20.6	55
SMBZ5936B	36B	28.5	30	31.5	12.5	28.0	750	0.25	1	22.8	50
SMBZ5937B	37B	31.4	33	34.7	11.4	33.0	800	0.25	1	25.1	45
SMBZ5938B	38B	34.2	36	37.8	10.4	38.0	850	0.25	1	27.4	41
SMBZ5939B	39B	37.1	39	41.0	9.6	45.0	900	0.25	1	29.7	38
SMBZ5940B	40B	40.9	43	45.2	8.7	53.0	950	0.25	1	32.7	34
SMBZ5941B	41B	44.6	47	49.4	8.0	67	1000	0.25	1	35.8	31
SMBZ5942B	42B	48.4	51	53.6	7.3	70	1100	0.25	1	38.8	29
SMBZ5943B	43B	53.2	56	58.8	6.7	86	1300	0.25	1	42.6	26
SMBZ5944B	44B	58.9	62	65.1	6.0	100	1500	0.25	1	47.1	24
SMBZ5945B	45B	64.6	68	71.4	5.5	120	1700	0.25	1	51.7	22

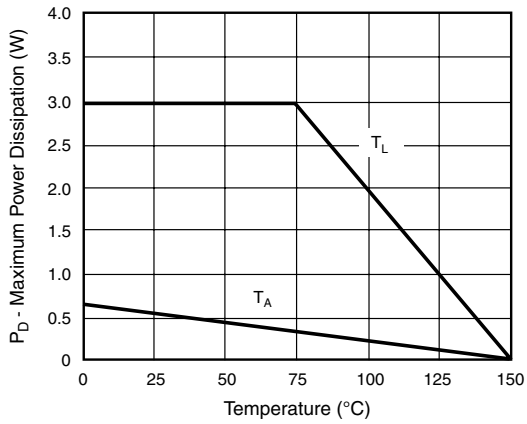


Figure 1. Steady State Power During

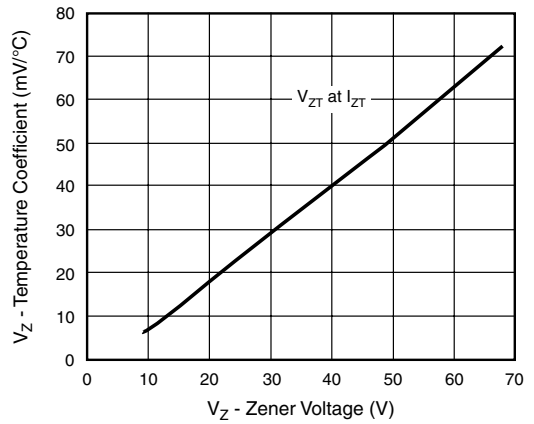


Figure 3. Typical Temperature Coefficients

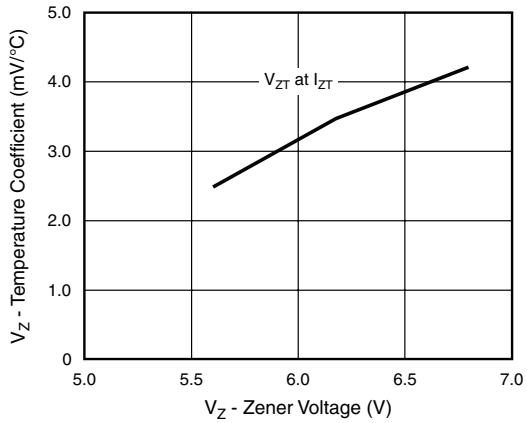


Figure 2. Typical Temperature Coefficients

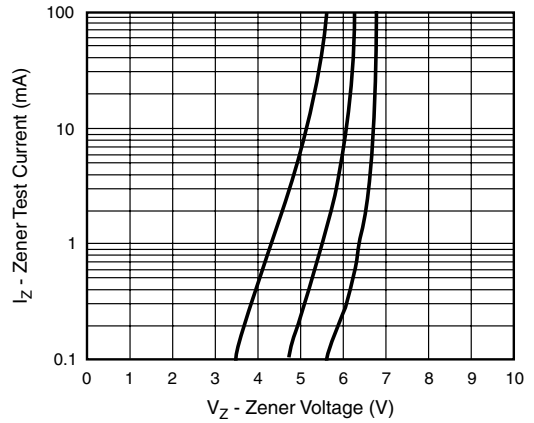


Figure 4. Typical Zener Voltage

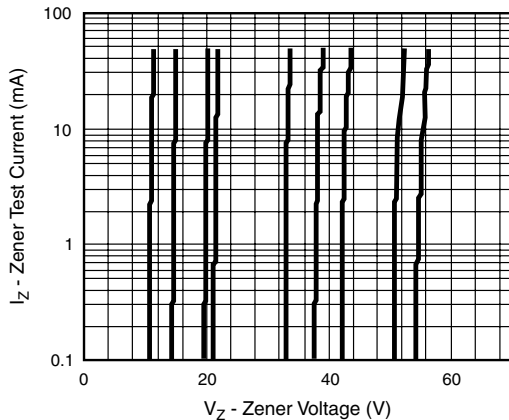


Figure 5. Typical Zener Voltage

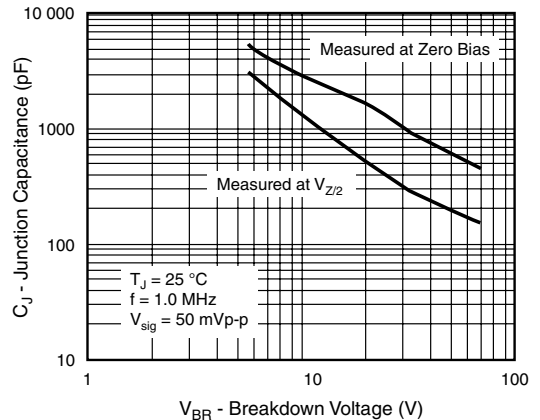


Figure 7. Typical Junction Capacitance