VISHAY MAS
GENERAL SEMICONDUCTOR

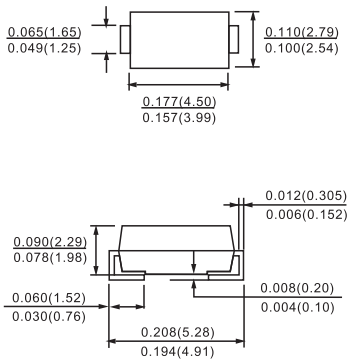
SMAZ5919B THRU SMAZ5945B

5.6V-68V 0.5W

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

DO-214AC(SMA)



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: DO-214AC (SMA)

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS (T_A = 25 °C, unless otherwise noted)			
PARAMETER	**SYMBOL**	**VALUE**	**UNIT**
Power dissipation at T_L = 75 °C (Fig. 1) (1)	P_D	1.5	W
Power dissipation at T_A = 25 °C (Fig. 1) (2)	P_D	0.5	
Maximum instantaneous forward voltage at 200 mA for all types (3)	V_F	1.5	V
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 150	°C

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Typical thermal resistance, junction to lead (1)	$R_{\theta JL}$	50	°C/W
Typical thermal resistance, junction to ambient (2)	$R_{\theta JA}$	250	°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

ELECTRICAL CHARACTERISTICS (T_A = 25 °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)
						Z_{ZT} AT I_{ZT}	Z_{ZK} AT I_{ZK}				
		MIN.	NOM.	MAX.		(Ω)	(Ω)	(mA)	(μA)	(V)	
SMAZ5919B	19B	5.32	5.6	5.88	66.9	5	700	1	200	3	268
SMAZ5920B	20B	5.89	6.2	6.51	60.5	2	700	1	200	4	242
SMAZ5921B	21B	6.46	6.8	7.14	55.1	2.5	400	1	200	5.2	221
SMAZ5923B	23B	7.79	8.2	8.61	45.7	5.0	700	0.5	10	6.5	183
SMAZ5924B	24B	8.64	9.1	9.56	41.2	5.0	700	0.5	10	7.0	165
SMAZ5925B	25B	9.5	10	10.5	37.5	5.0	700	0.25	10	8.0	150
SMAZ5926B	26B	10.5	11	11.6	34.1	5.5	550	0.25	5	8.4	136
SMAZ5927B	27B	11.4	12	12.6	31.2	6.5	550	0.25	1	9.1	125
SMAZ5928B	28B	12.4	13	13.7	28.8	7.0	550	0.25	1	9.9	115
SMAZ5929B	29B	14.3	15	15.8	25.0	9.0	600	0.25	1	11.4	100
SMAZ5930B	30B	15.2	16	16.8	23.4	10.0	600	0.25	1	12.2	94
SMAZ5931B	31B	17.1	18	18.9	20.8	12.0	650	0.25	1	13.7	83
SMAZ5932B	32B	19.0	20	21.0	18.7	14.0	650	0.25	1	15.2	75
SMAZ5933B	33B	20.9	22	23.1	17.0	17.5	650	0.25	1	16.7	68
SMAZ5934B	34B	22.8	24	25.2	15.6	19.0	700	0.25	1	18.2	62
SMAZ5935B	35B	25.7	27	28.4	13.9	23.0	700	0.25	1	20.6	56
SMAZ5936B	36B	28.5	30	31.5	12.5	28.0	750	0.25	1	22.8	50
SMAZ5937B	37B	31.4	33	34.7	11.4	33.0	800	0.25	1	25.1	45
SMAZ5938B	38B	34.2	36	37.8	10.4	38.0	850	0.25	1	27.4	42
SMAZ5939B	39B	37.1	39	41.0	9.6	45.0	900	0.25	1	29.7	38
SMAZ5940B	40B	40.9	43	45.2	8.7	53.0	950	0.25	1	32.7	35
SMAZ5941B	41B	44.65	47	49.35	8.0	67	1000	0.25	1	35.8	32
SMAZ5942B	42B	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
SMAZ5943B	43B	53.2	56	58.8	6.7	86	1300	0.25	1	42.6	27
SMAZ5944B	44B	58.9	62	65.1	6.0	100	1500	0.25	1	47.1	24
SMAZ5945B	45B	64.6	68	71.4	5.5	120	1700	0.25	1	51.7	22

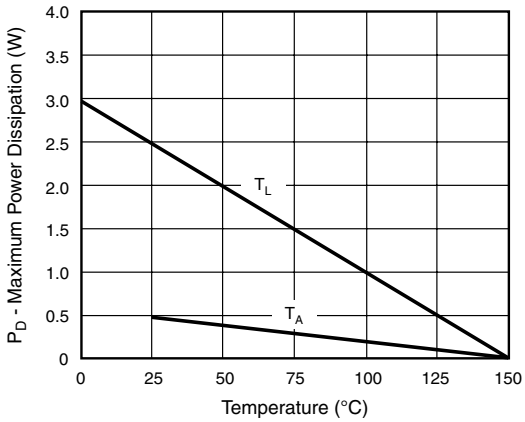


Figure 1. Steady State Power Durating

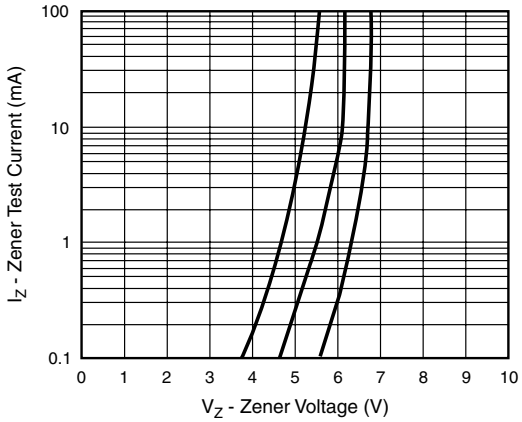


Figure 2. Typical Zener Voltage

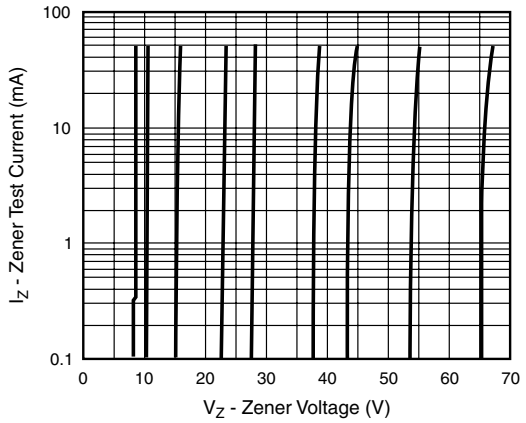


Figure 3. Typical Zener Voltage

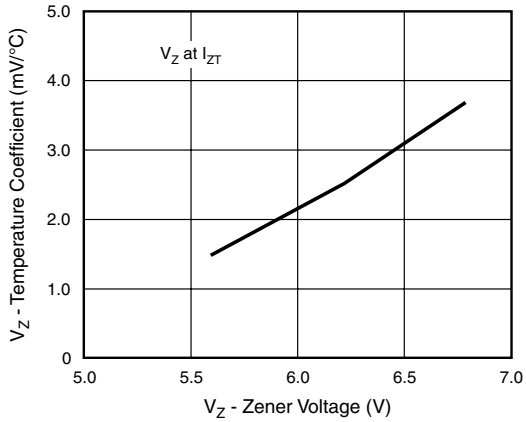


Figure 4. Typical Temperature Coefficients

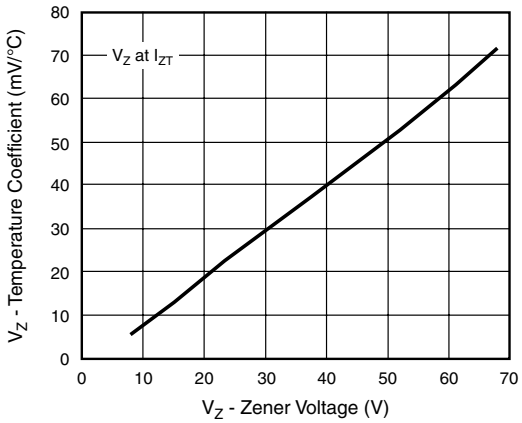


Figure 5. Typical Temperature Coefficients

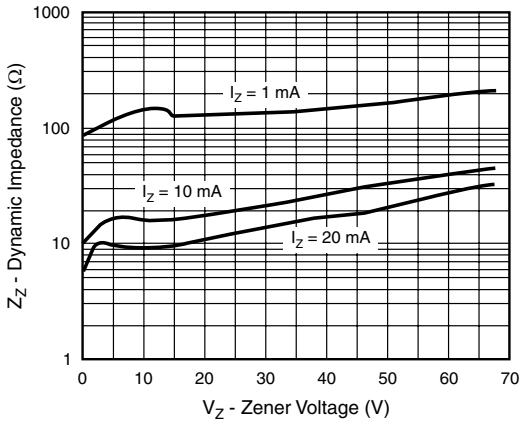


Figure 7. Typical Zener Impedance