



DATA SHEET

1SMB5921~1SMB5956

SURFACE MOUNT SILICON ZENER DIODE
VOLTAGE- 6.8 to 200 Volts Power - 1.5 Watts

FEATURES

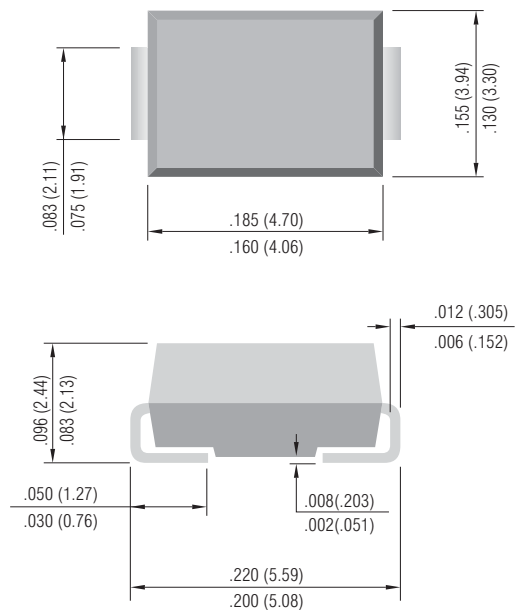
- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Typical I_R less than 1.0 μ A above 12V
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AA, Molded plastic over passivated junction.
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes positive end (cathode)
Standard Packaging: 12mm tape (EIA-481)
Weight: 0.003 ounce, 0.093 gram

SMB / DO-214AA

Unit: inch (mm)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	VALUE	UNITS
Pwak Pulse Power Dissipation on TA=70°C (Notes A) Derate above 70°C	P_D	1.5 15.0	Watts mW / °C
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	10	Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

NOTES:

- A. Mounted on 5.0mm² (.013mm thick) land areas.
B. Measured on 8.3ms, and single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.



Part Number	Marking Code	Vz @ IzT	IzT	Maximum Zener Impedance			Leakage Current		Maximum DC Zener Current	PACKAGE
				ZzT @ IzT	Zzk @ IzK	IzK	IR	VR		
				Ohms	Ohms	mA	uA Max	V		
1SMB5921	921A	6.8	55.1	2.5	200	1.0	5.0	5.2	220	SMB/DO-214AA
1SMB5922	922A	7.5	50	3	400	0.5	5.0	6.0	200	SMB/DO-214AA
1SMB5923	923A	8.2	45.7	3.5	400	0.5	5.0	6.5	182	SMB/DO-214AA
1SMB5924	924A	9.1	41.2	4	500	0.5	5.0	7	164	SMB/DO-214AA
1SMB5925	925A	10	37.5	4.5	500	0.25	5.0	8	150	SMB/DO-214AA
1SMB5926	926A	11	34.1	5.5	550	0.25	1.0	8.4	136	SMB/DO-214AA
1SMB5927	927A	12	31.2	6.5	550	0.25	1.0	9.1	125	SMB/DO-214AA
1SMB5928	928A	13	28.8	7.0	550	0.25	1.0	9.9	115	SMB/DO-214AA
1SMB5929	929A	15	25.0	9.0	600	0.25	1.0	11.4	100	SMB/DO-214AA
1SMB5930	930A	16	23.4	10	600	0.25	1.0	12.2	93	SMB/DO-214AA
1SMB5931	931A	18	20.8	12	650	0.25	1.0	13.7	83	SMB/DO-214AA
1SMB5932	932A	20	18.7	14	650	0.25	1.0	15.2	75	SMB/DO-214AA
1SMB5933	933A	22	17.0	17.5	650	0.25	1.0	16.7	68	SMB/DO-214AA
1SMB5934	934A	24	15.6	19	700	0.25	1.0	18.2	62	SMB/DO-214AA
1SMB5935	935A	27	13.9	23	700	0.25	1.0	20.6	55	SMB/DO-214AA
1SMB5936	936A	30	12.5	26	750	0.25	1.0	22.8	50	SMB/DO-214AA
1SMB5937	937A	33	11.4	33	800	0.25	1.0	25.1	45	SMB/DO-214AA
1SMB5938	938A	36	10.4	38	850	0.25	1.0	27.4	41	SMB/DO-214AA
1SMB5939	939A	39	9.6	45	900	0.25	1.0	29.7	38	SMB/DO-214AA
1SMB5940	940A	43	8.7	53	950	0.25	1.0	32.7	34	SMB/DO-214AA
1SMB5941	941A	47	8.0	67	1000	0.25	1.0	35.8	31	SMB/DO-214AA
1SMB5942	942A	51	7.3	70	1100	0.25	1.0	38.8	29	SMB/DO-214AA
1SMB5943	943A	56	6.7	86	1300	0.25	1.0	42.6	26	SMB/DO-214AA
1SMB5944	944A	62	6.0	100	1500	0.25	1.0	47.1	24	SMB/DO-214AA
1SMB5945	945A	68	5.5	120	1700	0.25	1.0	51.7	22	SMB/DO-214AA
1SMB5946	946A	75	5.0	140	2000	0.25	1.0	56.0	20	SMB/DO-214AA
1SMB5947	947A	82	4.6	160	2500	0.25	1.0	62.2	18	SMB/DO-214AA
1SMB5948	948A	91	4.1	200	3000	0.25	1.0	69.2	16	SMB/DO-214AA
1SMB5949	949A	100	3.7	250	3100	0.25	1.0	76.0	15	SMB/DO-214AA
1SMB5950	950A	110	3.4	300	4000	0.25	1.0	83.6	13	SMB/DO-214AA
1SMB5951	951A	120	3.1	380	4500	0.25	1.0	91.2	12	SMB/DO-214AA
1SMB5952	952A	130	2.9	450	5000	0.25	1.0	98.8	11	SMB/DO-214AA
1SMB5953	953A	150	2.5	600	6000	0.25	1.0	114.0	10	SMB/DO-214AA
1SMB5954	954A	160	2.3	700	6500	0.25	1.0	121.6	9	SMB/DO-214AA
1SMB5955	955A	180	2.1	900	7000	0.25	1.0	136.8	8	SMB/DO-214AA
1SMB5956	956A	200	1.9	1200	8000	0.25	1.0	152.0	7	SMB/DO-214AA

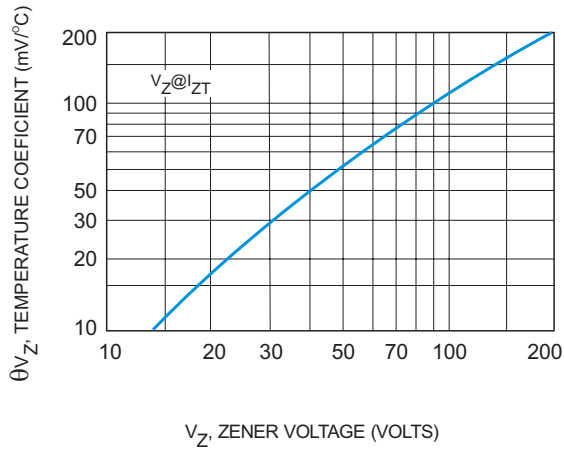


FIGURE 3. ZENER VOLTAGE - 14 TO 200 VOLTS

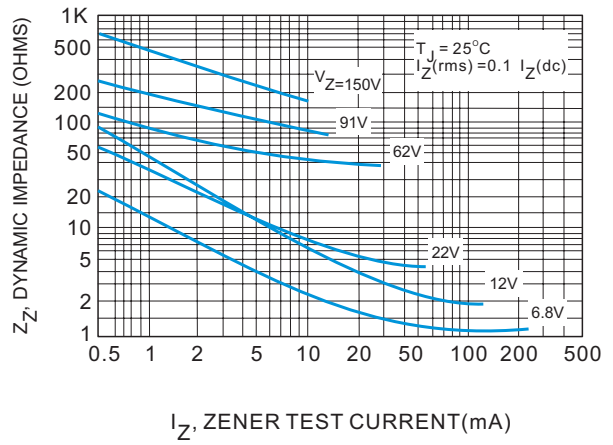


FIGURE 4. EFFECT OF ZENER CURRENT

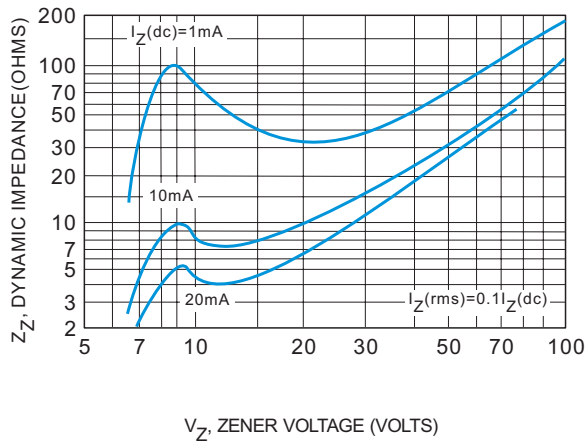


FIGURE 5. EFFECT OF ZENER VOLTAGE

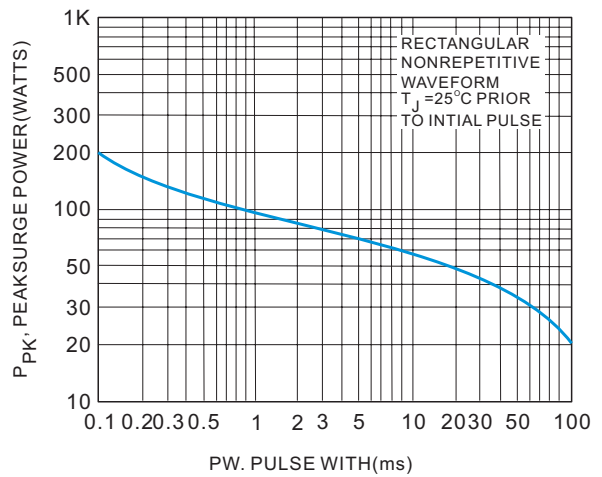


FIGURE 6. MAXIMUM SURGE POWER

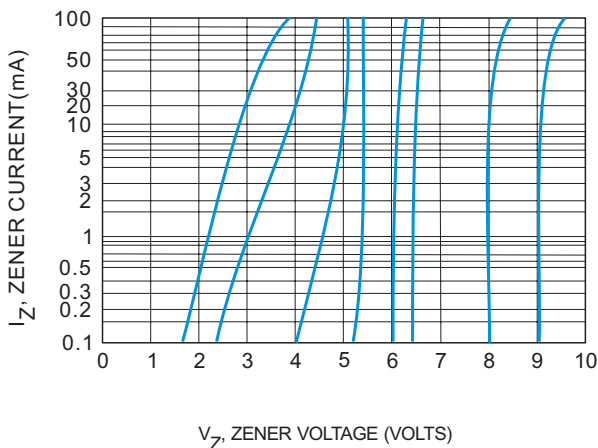


FIGURE 7. $V_Z = 6.8$ THRU 10 VOLTS

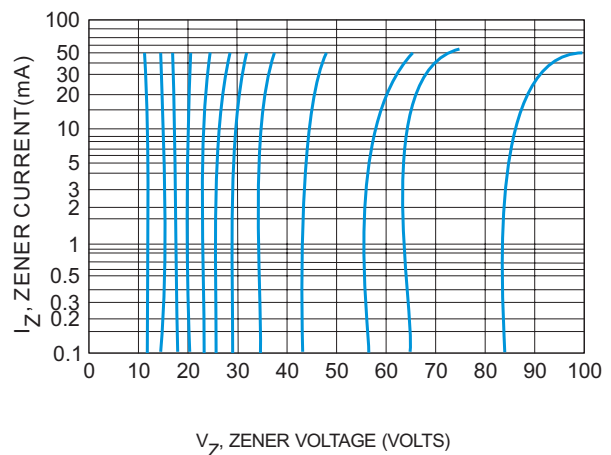


FIGURE 8. $V_Z = 12$ THRU 82 VOLTS

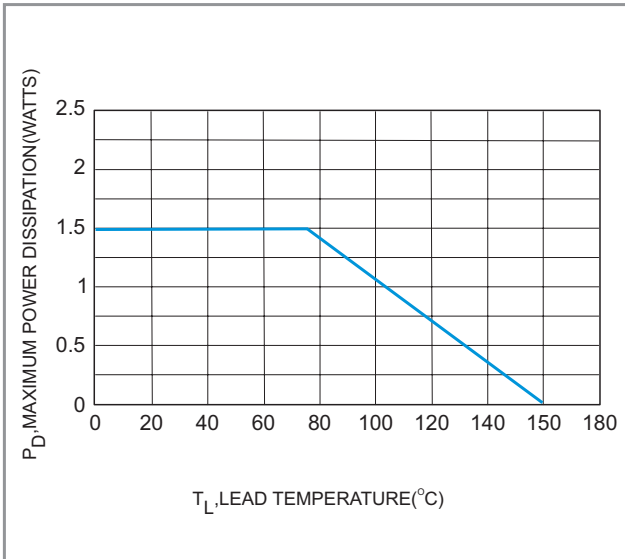


FIGURE 1 . STEADY STATE POWER DERATING

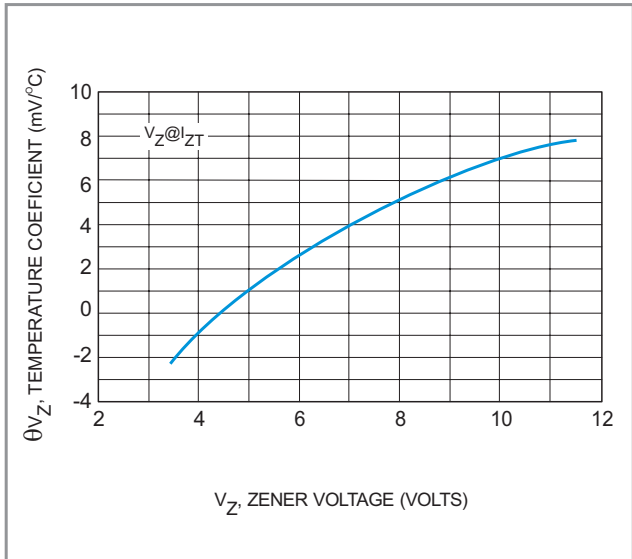


FIGURE 2. ZENER VOLTAGE - TO 12 VOLTS