DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

SMB5920B THRU SMB5956B

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SILICON ZENER DIODES

VOLTAGE RANGE - 6.2 to 200 Volts *POWER - 1.5 Watts*

FEATURES

* Voltage Range:6.2V to 200V
* Build-in strain relief
* Glass passivated junction
* Low inductance
* Excellent clamping capability
* Low profile package

MECHANICAL DATA

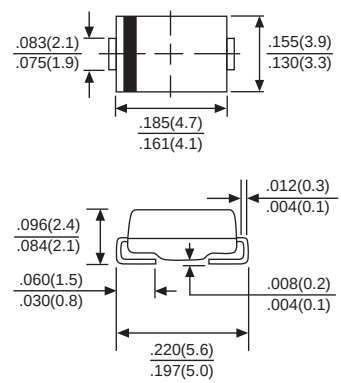
* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
*Terminals:Solder plated, solderable per MIL-STD-750, Method 2026
*Polarity:As Marked
* Mounting position: Any
* Weight: 0.093 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



SMB (DO-214AA)



Dimensions in inches(millimeters)

	SYMBOL	VALUE	UNITS
Zener Current see Table "Characteristics"			
Power Dissipation (Notes 1) at Tamb=25°C	Ptot	1.5	W
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Notes 2)	IFSM	10	Amps
Maximum Forward Voltage at IF=200mA	VF	1.5	Volts
Operating and Storage Temperature	TJ,Tstg	-55 to + 150	°C

Notes: 1. Mounted on 5.0mm² (.013mm thick) land areas.
2. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

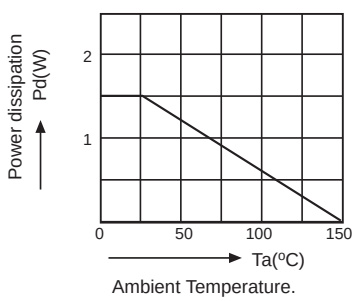


Fig. 1 - changes in the power dissipation due to the ambient temperature.

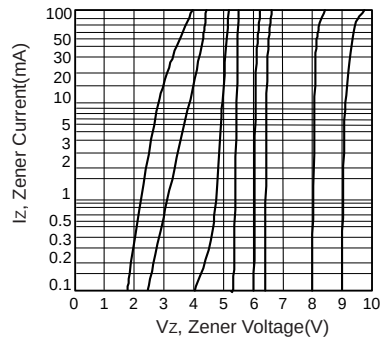


Fig. 2 - Vz=3.9 Thru 10 Volts

RATING AND CHARACTERISTIC CURVES (SMB5920B THRU SMB5956B)

TYPE	Nominal Zener Voltage $V_{Z@I_{ZT}}$	Zener Test Current I_{ZT} mA	Maximum Zener Impedance		I_{ZK}	Maximum Reverse Leakage Current		Maximum Regulator Current I_{ZM} mA
			$Z_{ZT@I_{ZT}}$ Ohms	$Z_{ZK@I_{ZK}}$ Ohms	mA	I_R µA	@V_R Volts	
SMB5920B	6.2	60.5	2.0	200	1.00	5.0	4.0	241.0
SMB5921B	6.8	55.1	2.5	200	1.00	5.0	5.2	220.0
SMB5922B	7.5	50.0	3.0	400	0.50	5.0	6.0	200.0
SMB5923B	8.2	45.7	3.5	400	0.50	5.0	6.5	182.0
SMB5924B	9.1	41.2	4.0	500	0.50	5.0	7.0	164.0
SMB5925B	10.0	37.5	4.5	500	0.25	5.0	8.0	150.0
SMB5926B	11.0	34.1	5.5	550	0.25	1.0	8.4	136.0
SMB5927B	12.0	31.2	6.5	550	0.25	1.0	9.1	125.0
SMB5928B	13.0	28.8	7.0	550	0.25	1.0	9.9	115.0
SMB5929B	15.0	25.0	9.0	600	0.25	1.0	11.4	100.0
SMB5930B	16.0	23.4	10.0	600	0.25	1.0	12.2	93.0
SMB5931B	18.0	20.8	12.0	650	0.25	1.0	13.7	83.0
SMB5932B	20.0	18.7	14.0	650	0.25	1.0	15.2	75.0
SMB5933B	22.0	17.0	17.5	650	0.25	1.0	16.7	68.0
SMB5934B	24.0	15.6	19.0	700	0.25	1.0	18.2	62.0
SMB5935B	27.0	13.9	23.0	700	0.25	1.0	20.6	55.0
SMB5936B	30.0	12.5	26.0	750	0.25	1.0	22.8	50.0
SMB5937B	33.0	11.4	33.0	800	0.25	1.0	25.1	45.0
SMB5938B	36.0	10.4	38.0	850	0.25	1.0	27.4	41.0
SMB5939B	39.0	9.6	45.0	900	0.25	1.0	29.7	38.0
SMB5940B	43.0	8.7	53.0	950	0.25	1.0	32.7	34.0
SMB5941B	47.0	8.0	67.0	1000	0.25	1.0	35.8	31.0
SMB5942B	51.0	7.3	70.0	1100	0.25	1.0	38.8	29.0
SMB5943B	56.0	6.7	86.0	1300	0.25	1.0	42.6	26.0
SMB5944B	62.0	6.0	100.0	1500	0.25	1.0	47.1	24.0
SMB5945B	68.0	5.5	120.0	1700	0.25	1.0	51.7	22.0
SMB5946B	75.0	5.0	140.0	2000	0.25	1.0	56.0	20.0
SMB5947B	82.0	4.6	160.0	2500	0.25	1.0	62.2	18.0
SMB5948B	91.0	4.1	200.0	3000	0.25	1.0	69.2	16.0
SMB5949B	100.0	3.7	250.0	3100	0.25	1.0	76.0	15.0
SMB5950B	110.0	3.4	300.0	4000	0.25	1.0	83.6	13.0
SMB5951B	120.0	3.1	380.0	4500	0.25	1.0	91.2	12.0
SMB5952B	130.0	2.9	450.0	5000	0.25	1.0	98.8	11.0
SMB5953B	150.0	2.5	600.0	6000	0.25	1.0	114.0	10.0
SMB5954B	160.0	2.3	700.0	6500	0.25	1.0	121.6	9.0
SMB5955B	180.0	2.1	900.0	7000	0.25	1.0	136.8	8.0
SMB5956B	200.0	1.9	1900.0	9990	0.25	1.0	152.0	7.0

NOTE: Standard Zener Voltage Tolerance ± 5%

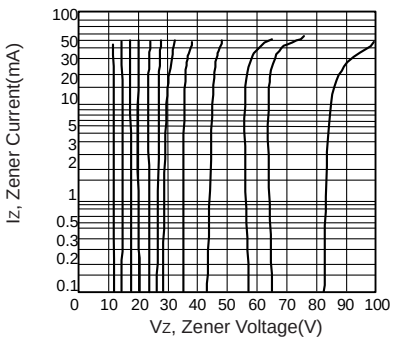


Fig. 3 - Vz=12 Thru 82 Volts

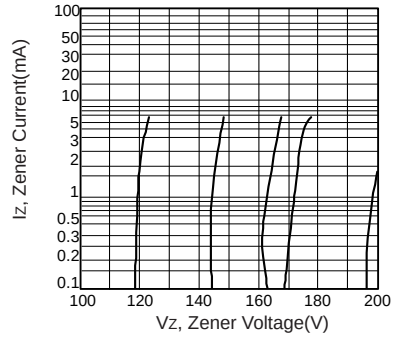


Fig. 4 - Vz=100 Thru 200 Volts