

**SMBJ5221
 thru
 SMBJ5281**

**SILICON
 1 WATT
 ZENER DIODES**

FEATURES:

- Popular SMBJ Package - Small and Rugged Surface Mount
- Constructed with an Oxide Passivated Die
- Voltage Range 2.4 to 200 Volts
- Tight Tolerance Available

MAXIMUM RATINGS:

- Operating & Storage Temperature: -55°C to +150°C
- DC Power Dissipation: 1 Watt
- Power Derating: 20 mW/°C above 100°C
- Forward voltage @ 200mA: 1.1V

MECHANICAL CHARACTERISTICS:

CASE: DO-214AA Molded Surface Mountable with flame retardant epoxy meeting UL94V-0

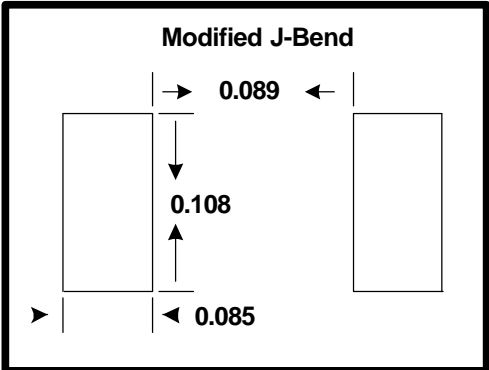
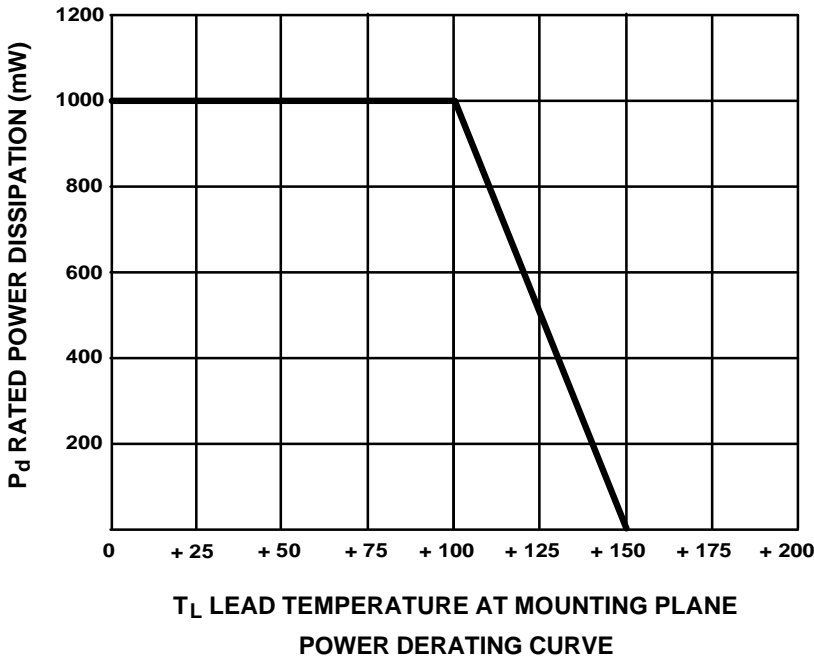
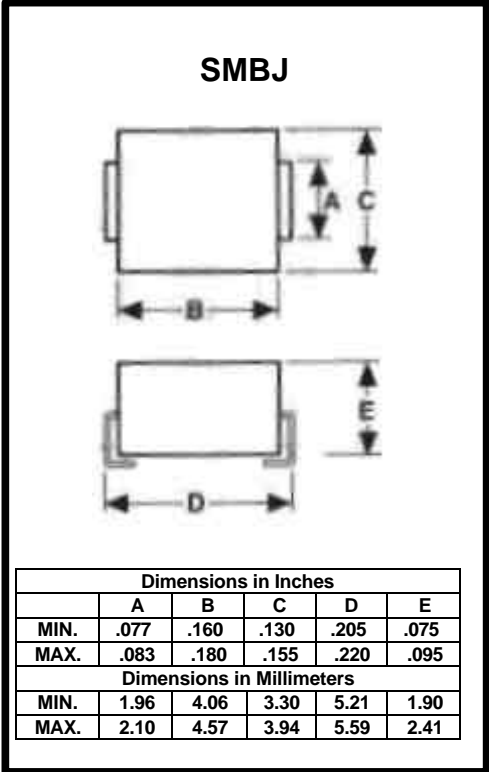
Terminals: C-bend (modified J-bend) leads, tin lead plated.

Polarity: Cathode indicated by band.

Packaging: Standard 12mm tape (see EIA Std. RS-481).

THERMAL RESISTANCE: 50°C/Watt (typical) junction to lead (tab) at mounting plane.

MAXIMUM TEMPERATURE FOR SOLDERING: 260°C for 10 seconds.



ELECTRICAL CHARACTERISTICS @ 25°C

JEDEC Type No. Note 1	Nominal Zener Voltage V_Z @ I_{ZT} Volts	Test Current I_{ZT} mA	Max Zener Impedance A & B Suffix Only Note 2		Max Reverse Leakage Current				Max Zener Volatage Temp. Coeff. (A & B Suffix Only) α_{VZ} (% / °C)
					A, B, C & D Suffix Only			Non-Suffix	
			Z_{ZT} @ I_{ZT} Ohms	Z_{ZK} @ $I_{ZK} = 0.25$ mA Ohms	I_R μ A	@ V_R Volts		I_R @ V_R Used For Suffix A μ A	
						A	B, C & D		
SMBJ5221	2.4	20	30	1200	100	0.95	1.0	200	-0.085
SMBJ5222	2.5	20	30	1250	100	0.95	1.0	200	-0.085
SMBJ5223	2.7	20	30	1300	75	0.95	1.0	150	-0.080
SMBJ5224	2.8	20	30	1400	75	0.95	1.0	150	-0.080
SMBJ5225	3.0	20	29	1600	50	0.95	1.0	100	-0.075
SMBJ5226	3.3	20	28	1600	25	0.95	1.0	100	-0.070
SMBJ5227	3.6	20	24	1700	15	0.95	1.0	100	-0.065
SMBJ5228	3.9	20	23	1900	10	0.95	1.0	75	-0.060
SMBJ5229	4.3	20	22	2000	5.0	0.95	1.0	50	\pm 0.055
SMBJ5230	4.7	20	19	1900	5.0	1.9	2.0	50	\pm 0.030
SMBJ5231	5.1	20	17	1600	5.0	1.9	2.0	50	\pm 0.030
SMBJ5232	5.6	20	11	1600	5.0	2.9	3.0	50	+0.038
SMBJ5233	6.0	20	7.0	1600	5.0	3.3	3.5	50	+0.038
SMBJ5234	6.2	20	7.0	1000	5.0	3.8	4.0	50	+0.045
SMBJ5235	6.8	20	5.0	750	3.0	4.8	5.0	30	+0.050
SMBJ5236	7.5	20	6.0	500	3.0	5.7	6.0	30	+0.058
SMBJ5237	8.2	20	8.0	500	3.0	6.2	6.5	30	+0.062
SMBJ5238	8.7	20	8.0	600	3.0	6.2	6.5	30	+0.065
SMBJ5239	9.1	20	10	600	3.0	6.7	7.0	30	+0.068
SMBJ5240	10	20	17	600	3.0	7.6	8.0	30	+0.075
SMBJ5241	11	20	22	600	2.0	8.0	8.4	30	+0.076
SMBJ5242	12	20	30	600	1.0	8.7	9.1	10	+0.077
SMBJ5243	13	9.5	13	600	0.5	9.4	9.9	10	+0.079
SMBJ5244	14	9.0	15	600	0.1	9.5	10	10	+0.082
SMBJ5245	15	8.5	16	600	0.1	10.5	11	10	+0.082
SMBJ5246	16	7.8	17	600	0.1	11.4	12	10	+0.083
SMBJ5247	17	7.4	19	600	0.1	12.4	13	10	+0.084
SMBJ5248	18	7.0	21	600	0.1	13.3	14	10	+0.085
SMBJ5249	19	6.6	23	600	0.1	13.3	14	10	+0.086
SMBJ5250	20	6.2	25	600	0.1	14.3	15	10	+0.086
SMBJ5251	22	5.6	29	600	0.1	16.2	17	10	+0.087
SMBJ5252	24	5.2	33	600	0.1	17.1	18	10	+0.088
SMBJ5253	25	5.0	35	600	0.1	18.1	19	10	+0.089
SMBJ5254	27	4.6	41	600	0.1	20	21	10	+0.090
SMBJ5255	28	4.5	44	600	0.1	20	21	10	+0.091
SMBJ5256	30	4.2	49	600	0.1	22	23	10	+0.091
SMBJ5257	33	3.8	58	700	0.1	24	25	10	+0.092
SMBJ5258	36	3.4	70	700	0.1	26	27	10	+0.093
SMBJ5259	39	3.2	80	800	0.1	29	30	10	+0.094
SMBJ5260	43	3.0	93	900	0.1	31	33	10	+0.095
SMBJ5261	47	2.7	105	1000	0.1	34	36	10	+0.095
SMBJ5262	51	2.5	125	1100	0.1	37	39	10	+0.096
SMBJ5263	56	2.2	150	1300	0.1	41	43	10	+0.096
SMBJ5264	60	2.1	170	1400	0.1	44	46	10	+0.097
SMBJ5265	62	2.0	185	1400	0.1	45	47	10	+0.097
SMBJ5266	68	1.8	230	1600	0.1	49	52	10	+0.097
SMBJ5267	75	1.7	270	1700	0.1	53	56	10	+0.098
SMBJ5268	82	1.5	330	2000	0.1	59	62	10	+0.098
SMBJ5269	87	1.4	370	2200	0.1	65	68	10	+0.099
SMBJ5270	91	1.4	400	2300	0.1	66	69	10	+0.099
SMBJ5271	100	1.3	500	2600	0.1	72	76	10	+0.110
SMBJ5272	110	1.1	750	3000	0.1	80	84	10	+0.110
SMBJ5273	120	1.0	900	4000	0.1	86	91	10	+0.110
SMBJ5274	130	0.95	1100	4500	0.1	94	99	10	+0.110
SMBJ5275	140	0.90	1300	4500	0.1	101	106	10	+0.110
SMBJ5276	150	0.85	1500	5000	0.1	108	114	10	+0.110
SMBJ5277	160	0.80	1700	5500	0.1	116	122	10	+0.110
SMBJ5278	170	0.74	1900	5500	0.1	123	129	10	+0.110
SMBJ5279	180	0.68	2200	6000	0.1	130	137	10	+0.110
SMBJ5280	190	0.66	2400	6500	0.1	137	144	10	+0.110
SMBJ5281	200	0.65	2500	7000	0.1	144	152	10	+0.110

Note 1.

No suffix indicates a \pm 20% tolerance on nominal V_Z . Suffix A denotes a \pm 10% tolerance, B denotes a \pm 5% tolerance, C denotes a \pm 2% tolerance, and D denotes a \pm 1% tolerance. The electrical characteristics are measured after allowing the device to stabilize for 20 seconds when mounted on a heat sink.

Note 2.

The zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an r.m.s. valued equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve, thereby eliminating unstable units.