Silicon Power Multiplier Diodes

TYPE NUMBER	POWER DISSIPATION P_D(WATTS) @ 25°C	THERMAL RESISTANCE °C/W MAX	INPUT FREQ F_{IN} MHz	POWER INPUT P_{IN} WATTS	OUTPUT FREQ F_{OUT} MHz	POWER OUTPUT P_{OUT}(MIN) WATTS	BREAKDOWN VOLTAGE V_B(MIN) @ 10μA
1N5149	10.0	9.0	500	20.0	1000	11.0	80
1N5150	14.0	9.0	500	37.0	1000	24.0	80
1N5150A	21.0	6.0	500	37.0	1000	25.1	80
1N5151	5.5	23.0	1000	12.0	2000	6.0	75
1N5152	5.5	23.0	1000	12.0	2000	6.0	75
1N5153	5.5	23.0	1000	12.0	2000	6.0	75
1N5152A	8.4	15.0	1000	12.0	2000	7.2	75
1N5153A	8.4	15.0	1000	12.0	2000	7.2	75
1N5154	3.5	35.0	2000	5.0	6000	2.0	35
1N5155	3.5	35.0	2000	5.0	6000	2.0	35
1N5155A	6.2	20.0	2000	5.0	6000	2.0	35
1N5156	3.3	38.0	5000	2.6	10000	1.0	20
1N5157	3.3	38.0	5000	2.6	10000	1.0	20

Super Power Multiplier Diodes

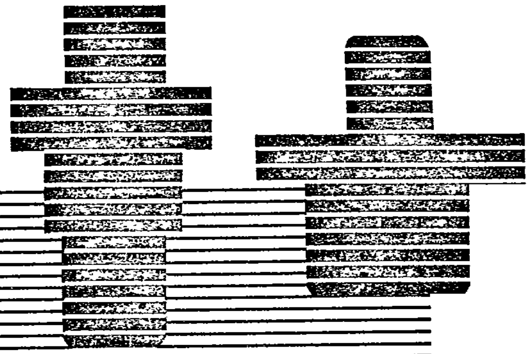
TYPE NUMBER	BREAKDOWN[1] VOLTAGE V_B(MIN) @ 10μA (VOLTS)	JUNCTION[2] CAPACITANCE @−6V & 1 MHz (Pf)
AB810A	140	18-26
AB811A	80	8-10
AB812A	80	4-5
AB813A	60	2.5-3.5
AB814A	60	1.5-2.5
AB824A	45	1.0-1.5

Standard Power Multiplier Diodes

AB800	200	18-26
AB810	175	18-26
AB820	150	10-20
AB801	120	8-10
AB811	100	8-10
AB802	120	4-5
AB812	100	4-5
AB822	80	4-6
AB803	80	2.5-3.5
AB804	80	1.5-2.5
AB814	60	1.5-2.5
AB825	40	1.0-1.5
AB805	40	0.5-0.7
AB806	30	0.3-0.5
AB807	6	0.15-0.2

N O T E S

1. Breakdown voltage is measured at $I_R = 10\mu A$
2. Junction capacitance is measured at −6 volts and 1 MHz
3. Measured at −6 volts and 3.3 GHz
4. Defined as the operable range, not instantaneous bandwidth
5. Typical values when used as a tripler. Useful from 2 to 4 times multiplication



SERIES RESISTANCE R_S@-6V $f = 50$ MHz OHMS	CAPACITANCE (TOTAL) $V_R = 6.0V$ $f = 1.0$ MHz MIN Pf	MAX Pf	PACKAGE OUTLINE
0.25	5.0	20.0	20
0.25	5.0	20.0	20
0.25	10.8	13.2	20
0.5	5.0	7.5	40
0.5	5.0	7.5	51
0.5	5.0	7.5	20
0.5	5.4	6.6	51
0.5	5.4	6.6	20
0.9	1.0	3.0	40
0.9	1.0	3.0	51
0.9	1.71	2.09	51
1.0	0.5	1,0	40
1.0	0.5	1.0	51

MINIMUM[3] CUTOFF FREQUENCY OR MAXIMUM SERIES RESISTANCE (GHz OR OHMS)	TYPICAL MINORITY CARRIER LIFETIME 10mA/6mA (ns)	MAXIMUM TRANSITION TIME −10V/10mA (PS)	OUTPUT[4] FREQUENCY RANGE (GHz)	TYPICAL[5] EFFICIENCY AS A TRIPLER (%)	TYPICAL[6] AVAILABLE OUTPUT POWER (WATTS)	MAXIMUM THERMAL RESISTANCE (°C/W)	PACKAGE OUTLINE
0.30π	450	5000	0.5-1.0	65	40	3	20
60	160	2000	1.0-2.5	65	24	7	20
90	130	2000	2.0-4.0	55	10	11	20
140	60	700	3.0-5.0	50	6	13	20, 51
140	60	500	5.0-8.0	50	4	15	20, 51
160	30	300	7.0-10.0	50	2.5	25	51

0.35π	450	10000	0.3-0.75	70	3-20	3	20
0.35π	400	8000	0.5-1.0	65	2-24	3	20
40	350	5000	0.6-1.2	60	2-16	5	20
60	210	3000	0.75-1.5	60	1-10	7	20
60	180	2000	1.0-2.5	65	1-10	7	20
90	200	3000	1.5-3.0	55	1-8	10	20
90	170	2000	2.0-4.0	55	1-6	11	20
110	180	925	2.0	—	2.0	—	20, 51
120	100	1000	3.0-5.0	50	0.5-4.0	13	20, 51
150	90	750	5.0-7.0	45	0.5-2.5	15	20, 51
150	60	400	5.0-8.0	45	0.3-1.5	15	20, 51
160	20	150	5.0-8.0	50	2.5	25	20, 51
175	18	150	8.0-12.0	40	0.1-0.6	50	51
200	10	100	12.0-15.0	30	0.05-0.30	75	51
350	3	—	15.0-25.0	15	0.05	300	43, 84