

Figure 1 illustrates various electronic components used in the assembly, including:

- Case 221D-02 (U.I. Recognized File E69093)
- Case 221A-05 (12-204AB)
- Case 3400-01 (TO-218 type, SOT-99)
- Case 340F03 (TO-247 type)
- Case 340G-01 (TO-3PBL)
- Case 77-07 (TO-225AA)
- Case 197A-03 (TO-204AE)
- Case 1-07 (TO-204AA)
- Case 396A-10 (TO-204AA)

Plastic TO-3PBL
Pin: 1 — Base, 2 — Collector, 3 — Emitter, 4 — Collector (Style 2, Case 340G-01)

Mir.'s Type		ICont (A) Max.	V _{GS(on)} ¹⁾ (V) Min.	hFE Min./Max.	@ Ic (A)	Resistive Switching			f _r (MHz) Typ.	P _D (Case) Watts @ 25°C
NPN	PNP					t _{ps} (μs) Max.	t _p (μs) Max.	@ Ic (A)		
MJL32281A	MJL1302A	15.0	200	60/175	7.00	—	—	—	30.0 Typ.	200.0
MJL21194	MJL21193	16.0	250	25/75	8.00	—	—	—	4.0 Min.	200.0

Plastic TO-225 Type (Formerly TO-126 Type)
Pin: 1 — Emitter, 2 — Collector, 3 — Base (Style 1, Case 77-07 (TO-225AA))
Pin: 1 — Base, 2 — Collector, 3 — Emitter (Style 3, Case 77-07 (TO-225AA))

Plastic TO-225 Type (Formerly TO-126 Type)										
Pin: 1 — Emitter, 2 — Collector, 3 — Base (Style 1, Case 77-07 (TO-225AA))										
Pin: 1 — Base, 2 — Collector, 3 — Emitter (Style 3, Case 77-07 (TO-225AA))										
MJE3439	—	0.3	350	40/160	0.02	—	—	—	15.0	15.0
MJE344	—	0.5	200	30/100	0.05	—	—	—	20.8	—
MJE3490	MJE350	0.5	300	30/240	0.05	—	—	—	—	20.8
2N4921	2N4918	1.0	40	20/100	0.50	0.60 Typ.	0.300 Typ.	0.5	3.0	30.0
2N4922	2N4919	1.0	60	20/100	0.50	0.60 Typ.	0.300 Typ.	0.5	3.0	30.0
2N4923	2N4920	1.0	60	0.50	0.50	0.60 Typ.	0.300 Typ.	0.5	3.0	30.0
MJE181	MJE172	3.0	60	50/250	0.10	0.60 Typ.	0.1 Typ.	0.1	50.0	2.5
MJE182	MJE173	3.0	80	50/250	0.10	0.60 Typ.	0.120 Typ.	0.1	50.0	12.5
—	MJE371	4.0	40	40 Min.	1.00	—	—	—	—	40.0
2N5191	2N5194	4.0	60	25/100	1.50	0.40 Typ.	0.400 Typ.	0.5	2.0	40.0
MJE800*	MJE700*	4.0	60	750 Min.	1.50	—	—	—	1.0*	40.0
2N6038*	2N6035*	4.0	60	750/18 K	2.00	1.70 Typ.	1.200 Typ.	2.0	25.0	40.0
2N5192	MJE195	4.0	80	25/100	1.50	0.40 Typ.	0.400 Typ.	1.5	2.0	40.0
MJE802*	MJE702*	4.0	80	750 Min.	1.50	—	—	—	1.0*	40.0
MJE803*	—	4.0	80	750 Min.	2.00	—	—	—	1.0*	40.0
2N6039*	2N6036*	4.0	80	750/18 K	2.00	1.70 Typ.	1.200 Typ.	2.0	25.0	40.0
MJE243	MJE253	4.0	100	40/120	0.20	0.15 Typ.	0.070 Typ.	0.20	40.0	15.0
MJE200*	MJE210*	5.0	25	45/180	2.00	0.13 Typ.	0.035 Typ.	2.0	65.0	15.0

DPAK — Surface Mount Power Package Pin: 1 — Base, 2 — Collector, 3 — Emitter, 4 — Collector (Style 1, Case 39A-10')										
MJD112 ²	—	2.0	100	1000 Min.	2.00	1.70	1.300	2.0	25.0 ²	20.0
MJD31C	—	3.0	100	10 Min.	1.00	0.60	0.300	1.0	3.0	15.0
—	MJD45H11	8.0	80	40 Min.	4.00	0.50	0.140	5.0	50.0 Typ.	20.0

2N3442	—	10.0	140	20/70	4.00	—	—	—	—	117.0	
MJ15011	—	10.0	250	20/100	2.00	—	—	—	—	200.0	
MJ423	—	10.0	325	30/90	1.00	—	—	—	2.5	125.0	
MJ10012 ²	—	10.0	400	100/2 K	6.00	15.00	15.000	6.0	—	175.0	
2N6058 ¹	—	12.0	8.0	750/18 K	6.00	1.60 Typ.	1.500 Typ.	6.0	4.0 ¹	150.0	
2N6059 ^{1,3}	2N6052 ^{1,3}	12.0	100	750/18 K	6.00	1.60 Typ.	1.500 Typ.	6.0	4.0 ¹	150.0	
2N3055 ¹	—	15.0	6.0	20/70	4.00	0.70 Typ.	0.300 Typ.	4.0	2.5	115.0	
2N3055A	—	15.0	6.0	20/70	4.00	—	—	—	—	0.8	115.0
MJ15016	—	15.0	120	20/70	4.00	—	—	—	—	1.0	200.0
MJ15001	MJ15002	15.0	140	25/150	4.00	0.70 Typ.	0.300 Typ.	4.0	—	2.0	200.0
MJ1021 ¹	—	15.0	30.0	6/30	10.00	4.00	0.700	10.0	6.0-24	175.0	
2N6547	—	15.0	400/850	6/30	10.00	4.00	0.700	10.0	6.0-24	175.0	
MJ16010	—	15.0	450/850	5 Min.	15.00	1.20 Typ.	0.200 Typ.	10.0	—	175.0	
MJ16012	—	15.0	450/850	7 Min.	15.00	0.90 Typ.	0.150 Typ.	10.0	—	175.0	
2N3773 ¹	—	16.0	140	15/60	8.00	1.10 Typ.	1.500 Typ.	8.0	4.0	150.0	

MJ15022	MJ15023	16.0	200	15/60	8.00	—	—	—	5.0	250.0
MJ15024	MJ15025	16.0	250	15/60	8.00	—	—	—	5.0	250.0
2N372	—	20.0	60	15/60	10.00	—	—	—	5.0	250.0
2N6282 ²	—	20.0	60	15/60	10.00	—	—	—	5.0	250.0
—	2N6286 ²	20.0	60	750/18 K	10.00	2.50 Typ.	2.500 Typ.	10.0	4.0 ²	160.0
—	—	20.0	60	1050/18 K	10.00	2.50 Typ.	2.500 Typ.	10.0	4.0 ²	160.0
2N5038 ³	—	20.0	90	1050/18 K	12.00	1.00	0.500	12.0	60.0	140.0
2N6284 ^{3,4}	2N6287 ^{3,4}	20.0	100	750/18 K	10.00	2.50 Typ.	2.500 Typ.	10.0	4.0 ²	160.0
MJ15003 ³	MJ15004 ⁴	20.0	140	25/150	5.00	—	—	10.0	2.0	250.0
MJ10005 ⁵	—	20.0	400	40/400	10.00	1.50	0.500	10.0	10.0 ²	175.0
MJ13333	—	20.0	400	10/60	5.00	4.00	0.700	10.0	—	175.0
MJ10009 ⁶	—	20.0	500	30/300	10.00	2.00	0.600	10.0	8.0 ²	175.0
2N5885	—	25.0	60	20/100	10.00	1.00	0.800	10.0	4.0	200.0
2N5886 ⁷	2N5884 ⁸	25.0	80	30/120	10.00	1.00	0.800	10.0	4.0	200.0
2N6341 ⁹	—	25.0	150	30/120	10.00	1.00	0.250	10.0	40.0	200.0
2N3771	—	30.0	40	15/60	15.00	—	—	—	2.0	150.0
MJ11012 ²	MJ4502	30.0	60	1 K Min.	20.00	—	—	—	2.0	200.0
MJ802	—	30.0	100	25/100	7.50	—	—	—	2.0	200.0
MJ11016 ¹⁰	MJ110115 ¹¹	30.0	120	1 K Min.	20.00	—	—	—	4.0 ²	200.0
MJ10023 ^{3,7}	—	40.0	400	50/600	10.00	2.50	0.900	20.0	—	300.0
2N5686 ¹²	—	50.0	80	15/60	15.00	0.50 Typ.	0.300 Typ.	20.0	2.0	250.0
2N5684 ¹³	—	50.0	90	400 Min.	50.00	—	—	—	—	300.0
MJ11032 ^{2,7}	MJ11033 ^{2,7}	50.0	120	400 Min.	50.00	—	—	—	—	300.0
MJ10016 ¹²	—	50.0	500	10 Min.	40.00	2.50	1.000	20.0	—	300.0
MJ14002 ²	MJ14003 ³	60.0	80	15/100	15.00	—	—	—	—	300.0
MJ10021 ^{2,7}	—	60.0	250	75 Min.	50.00	3.50	0.500	30.0	—	250.0

¹1HHz @ MHz. ²Darlington. ³Available as preferred chip. ⁴Case 77, (Style 3). ⁵When 2 voltages are given, the format is $V_{CE(sat)}/V_{CE}$. ⁶Case 369A-10 may be ordered tape and reeled by adding a "T4" suffix; 2500 units/reel. ⁷Case 197A-03 (TO-204AE).