

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
BC 119	N	TO-39	800	1	30	40	120	150	1	0.35	0.15	40	25	BC 139
BC 138	N	TO-39	800	1	30	35	-	100	10	1.5	1	40	25	-
BC 139	P	TO-39	700	0.5	40	40	-	100	10	0.8	0.3	-	6+	BC 119
BC 140	N	TO-39	800	1	40	40	250#	100	1	1	1	50	25	BC 160
BC 141	N	TO-39	800	1	60	40	250#	100	1	1	1	50	25	BC 161
BC 142	N	TO-39	800	1	60	20	-	200	2	0.4	0.2	40	25	BC 143
BC 143	P	TO-39	800	1	60	20	-	300	1	0.6	0.2	60	20	BC 142
BC 144	N	TO-39	800	1	40	20	-	300	1	0.6	0.5	100+	20	-
BC 160	P	TO-39	800	1	40	40	250#	100	1	1	1	50	30	BC 140
BC 161	P	TO-39	800	1	60	40	250#	100	1	1	1	50	30	BC 141
BC 185	N	TO-39	700	0.5	40	40	-	100	10	0.45	0.3	200	8	-
BC 210	N	TO-18	450	0.7	25	20	120	150	1	-	-	100	8	-
BC 211	N	TO-39	800	1	40	40	250#	150	2	1	1	50	25	BC 313
BC 211A	N	TO-39	800	1	60	40	250#	150	2	1	1	50	25	BC 313A
BC 215	P	TO-18	400	0.5	30	40	300#	150	10	0.9+	0.5	150	8	-
BC 223	N	TO-92F	360	0.4	30	100	450#	50	2	0.3	0.1	100	10	-
BC 231	P	TO-92B	625	0.4	30	100	450	50	5	0.25	0.05	100	10	BC 232
BC 232	N	TO-92B	625	0.4	30	100	450	50	5	0.3	0.1	100	10	BC 231
BC 284	N	TO-18	500	0.2	40	100	600	10	10	1	0.1	50	20	-
BC 286	N	TO-39	800	1	60	20	180	500	2	1	1	150+	11+	BC 287
BC 287	P	TO-39	800	1	60	20	200	500	2	1	1	140+	18+	BC 286
BC 294	P	TO-39	600	0.6	60	100	300	150	10	0.4	0.15	100	-	-
BC 297	P	TO-18	375	1	45	75	260#	100	1	0.7	0.5	250+	8+	BC 377
BC 298	P	TO-18	375	1	25	75	260#	100	1	0.7	0.5	250+	8+	BC 378
BC 300	N	TO-39	850	1	80	40	240#	150	10	0.5	0.15	120+	10+	-
BC 301	N	TO-39	850	1	60	40	240#	150	10	0.5	0.15	120+	10+	BC 303
BC 302	N	TO-39	850	1	45	40	240#	150	10	0.5	0.15	120+	10+	BC 304
BC 303	P	TO-39	850	1	60	40	240#	150	10	0.65	0.15	100+	17+	BC 301
BC 304	P	TO-39	850	1	45	40	240#	150	10	0.65	0.15	100+	17+	BC 302
BC 310	N	TO-39	800	1	70	40	-	200	1	0.4	0.2	90+	12+	BC 311
BC 311	P	TO-39	800	1	70	40	-	200	1	0.5	0.2	200+	13+	BC 310
BC 313	P	TO-39	800	1	40	40	250#	150	2	1	1	50	30	BC 211
BC 313A	P	TO-39	800	1	60	40	250#	150	2	1	1	50	30	BC 211A
BC 327	P	TO-92F	625	0.8	45	100	630#	100	1	0.7	0.5	100+	14+	BC 337
BC 328	P	TO-92F	625	0.8	25	100	630#	100	1	0.7	0.5	100+	14+	BC 338
BC 337	N	TO-92F	625	0.8	45	100	630#	100	1	0.7	0.5	100+	10+	BC 327
BC 338	N	TO-92F	625	0.8	25	100	630#	100	1	0.7	0.5	100+	10+	BC 328
BC 340	N	TO-39	800	0.5	40	40	250#	50	5	0.4	0.15	100+	6.5+	BC 360
BC 341	N	TO-39	800	0.5	60	40	160#	50	5	0.4	0.15	100+	6.5+	BC 361
BC 342	N	TO-39	800	1	60	20	-	500	10	0.8	0.3	100+	20	BC 343
BC 343	P	TO-39	800	1	60	20	-	500	10	0.8	0.3	100	20	BC 342
BC 344	N	TO-39	800	1	80	20	-	150	10	0.8	0.15	100	20	BC 345
BC 345	P	TO-39	800	1	80	20	-	150	10	0.8	0.15	100	20	BC 344
BC 360	P	TO-39	800	0.5	40	40	250#	50	5	0.4	0.15	250+	6.5+	BC 340
BC 361	P	TO-39	800	0.5	60	40	160#	50	5	0.4	0.15	250+	6.5+	BC 341
BC 368	N	TO-92B	800	1	20	85	375	500	1	0.5	1	65+	-	BC 369
BC 369	P	TO-92B	800	1	20	85	375	500	1	0.5	1	65+	-	BC 368
BC 377	N	TO-18	375	1	45	75	500	100	1	0.7	0.5	100	12	BC 297
BC 378	N	TO-18	375	1	25	75	500#	100	1	0.7	0.5	100	12	BC 298
BC 381	P	TO-92F	625	0.2	25	60	-	2.5	5	0.25	0.05	100	10	-
BC 387	N	TO-92F	310	0.6	30	40	300	100	1	0.5	0.1	200	10	BC 388
BC 388	P	TO-92F	310	0.6	30	40	300	100	1	0.5	0.1	200	10	BC 387
BC 431	N	TO-92F	625	0.8	60	63	240#	100	1	0.7	0.5	100+	12+	BC 432
BC 432	P	TO-92F	625	0.8	60	63	240#	100	1	0.7	0.5	100+	17+	BC 431
BC 440	N	TO-39	1000	1	40	40	250#	500	4	1	1	50	25	BC 460

#HFE groupings available + Typical value

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
BC 441	N	TO-39	1000	1	60	40	250#	500	4	1	1	50	25	BC 461
BC 445	N	TO-92F	625	0.3	60	50	460#	2	5	0.25	0.1	100	3+	BC 446
BC 446	P	TO-92F	625	0.3	60	50	460#	2	5	0.25	0.1	100	3+	BC 445
BC 460	P	TO-39	1000	1	40	40	250#	500	4	1	1	50	25	BC 440
BC 461	P	TO-39	1000	1	60	40	250#	500	4	1	1	50	25	BC 441
BC 485	N	TO-92F	625	1	45	60	400#	100	2	0.5	0.5	200+	7+	BC 486
BC 486	P	TO-92F	625	1	45	60	400#	100	2	0.5	0.5	150+	9+	BC 485
BC 487	N	TO-92F	625	1	60	60	400#	100	2	0.5	0.5	200+	7+	BC 488
BC 488	P	TO-92F	625	1	60	60	400#	100	2	0.5	0.5	150+	9+	BC 487
BC 489	N	TO-92F	625	1	80	60	400#	100	2	0.5	0.5	200+	7+	BC 490
BC 490	P	TO-92F	625	1	80	60	400#	100	2	0.5	0.5	150+	9+	BC 489
BC 512	P	TO-92F	300	0.2	45	60	300#	2	5	0.6	0.1	200	5+	-
BC 513	P	TO-92F	300	0.2	25	80	400#	2	5	0.6	0.1	200	5+	-
BC 514	P	TO-92F	300	0.2	20	140	400#	2	5	0.6	0.1	200	5+	-
BC 526	P	TO-92A	625	0.2	50	60	800#	2	5	0.6	0.1	100	5	-
BC 527	P	TO-92A	625	1	60	40	400#	100	1	0.7	0.5	100	15	BC 537
BC 528	P	TO-92A	625	1	80	40	400#	100	1	0.7	0.5	100	15	BC 538
BC 534	P	TO-92A	625	0.5	80	50	-	10	1	0.25	0.1	50	6.5	BC 535
BC 535	N	TO-92A	625	0.5	80	50	-	10	1	0.25	0.1	50	6	BC 534
BC 537	N	TO-92A	625	1	60	40	400#	100	1	0.7	0.5	100	15	BC 527
BC 538	N	TO-92A	625	1	80	40	400#	100	1	0.7	0.5	100	15	BC 528
BC 612	P	TO-92F	300	0.2	70	60	300	2	5	0.72	2	200	10	BC 682
BC 612L	P	TO-92B	300	0.2	70	60	300	2	5	0.72	2	200	10	BC 682L
BC 727	P	TO-92A	625	1.5	40	63	630#	100	1	0.7	0.5	40	20	BC 737
BC 728	P	TO-92A	625	1.5	25	63	630#	100	1	0.7	0.5	40	20	BC 738
BC 737	N	TO-92A	625	1.5	40	63	630#	100	1	0.7	0.5	40	20	BC 727
BC 738	N	TO-92A	625	1.5	25	63	630#	100	1	0.7	0.5	40	20	BC 728
BCW 34	N	TO-18	360	0.6	45	100	350	10	5	0.1	0.01	150	6	BCW 35
BCW 35	P	TO-18	360	0.6	45	100	350	10	5	0.1	0.01	150	6	BCW 34
BCW 36	N	TO-92F	360	0.6	45	100	350	10	5	0.1	0.01	150	6	BCW 37
BCW 37	P	TO-92F	360	0.6	45	100	350	10	5	0.1	0.01	150	6	BCW 36
BCW 73	N	TO-18	450	0.8	32	100	630#	100	1	0.7	0.5	100	12	-
BCW 74	N	TO-18	450	0.8	45	100	630#	100	1	0.7	0.5	100	12	-
BCW 75	P	TO-18	450	0.8	32	63	400#	100	1	0.7	0.5	100	18	-
BCW 76	P	TO-18	450	0.8	45	63	400#	100	1	0.7	0.5	100	18	-
BCW 77	N	TO-39	870	0.8	32	100	630#	100	1	0.7	0.5	100	12	-
BCW 78	N	TO-39	870	0.8	45	100	630#	100	1	0.7	0.5	100	12	-
BCW 79	P	TO-39	870	0.8	32	63	400#	100	1	0.7	0.5	100	18	-
BCW 80	P	TO-39	870	0.8	45	63	400#	100	1	0.7	0.5	100	18	-
BCW 90	N	TO-92F	610	0.8	40	100	400#	150	2	0.25	0.15	100+	15	BCW 92
BCW 90K	N	TO-92F*	750	0.8	40	100	400#	150	2	0.25	0.15	100+	15	BCW 92K
BCW 91	N	TO-92F	610	0.8	60	100	300#	150	2	0.25	0.15	100+	15	BCW 93
BCW 91K	N	TO-92F*	750	0.8	60	100	300#	150	2	0.25	0.15	120+	15	BCW 93K
BCW 92	P	TO-92F	610	0.8	60	100	300#	150	2	0.25	0.15	135	15	BCW 90
BCW 92K	P	TO-92F*	750	0.8	60	100	300#	150	2	0.25	0.15	135	15	BCW 90K
BCW 93	P	TO-92F	610	0.8	60	100	300#	150	2	0.25	0.15	135	10+	BCW 91
BCW 93K	P	TO-92F*	750	0.8	60	100	300#	150	2	0.25	0.15	135	10+	BCW 91K
BCW 94	N	TO-92F	540	0.4	40	100	400#	50	2	0.25	0.05	70+	8	BCW 96
BCW 94K	N	TO-92F*	700	0.4	40	100	400#	50	2	0.25	0.05	70+	8	BCW 96K
BCW 95	N	TO-92F	540	0.4	60	100	300#	50	2	0.25	0.05	70+	8	BCW 97
BCW 95K	N	TO-92F*	700	0.4	60	100	300#	50	2	0.25	0.05	70+	8	BCW 97K
BCW 96	P	TO-92F	540	0.4	40	100	300#	50	2	0.25	0.05	135	10	BCW 94

\* With X-67 heat sink # HFE groupings available + Typical value

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TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	VCE (V)	max (V)	I <sub>C</sub> (A)			
BCW 96K	P	TO-92F*	700	0.4	40	100	300#	50	2	0.25	0.05	135	10	BCW 94K
BCW 97	P	TO-92F	540	0.4	40	100	300#	50	2	0.25	0.05	135	10	BCW 95
BCW 97K	P	TO-92F*	540	0.4	60	100	300#	50	2	0.25	0.05	135	10	BCW 95K
BCX 25	N	TO-92F	350	0.2	60	70	400	10	5	0.25	0.1	100	6	BCX 26
BCX 26	P	TO-92F	350	0.2	60	70	400	10	5	0.25	0.1	100	6	BCX 25
BCX 40	N	TO-39	1000	2	80	40	250	500	4	1	0.5	50	—	—
BCX 45	N	TO-92F	625	1	45	50	—	100	2	0.5	0.5	100	12	—
BCX 46	P	TO-92F	625	1	45	50	—	100	2	0.5	0.5	60	15	—
BCX 47	N	TO-92F	625	1	60	50	—	100	2	0.5	0.5	100	12	—
BCX 48	P	TO-92F	625	1	60	50	—	100	2	0.5	0.5	60	15	—
BCX 49	N	TO-92F	625	1	80	50	—	100	2	0.5	0.5	100	12	—
BCX 50	P	TO-92F	625	1	80	50	—	100	2	0.5	0.5	60	15	—
BCX 60	N	TO-39	1000	2	80	40	250	500	4	1	0.5	50	—	—
BCX 73	N	TO-92F	625	0.8	32	100	630#	100	1	1.4	0.5	100	12	—
BCX 74	N	TO-92F	625	0.8	45	100	630#	100	1	1.4	0.5	100	12	—
BCX 75	P	TO-92F	625	0.8	32	100	630#	100	1	1.4	0.5	100	18	—
BCX 76	P	TO-92F	625	0.8	45	100	630#	100	1	1.4	0.5	100	18	—
BD 370A	P	TO-237A	750	1.5	45	40	400#	100	1	0.7	1	50	30	BD 371A
BD 370B	P	TO-237A	750	1.5	60	40	400#	100	1	0.7	1	50	30	BD 371B
BD 370C	P	TO-237A	750	1.5	80	40	400#	100	1	0.7	1	50	30	BD 371C
BD 371A	N	TO-237A	750	1.5	45	40	400#	100	1	0.7	1	50	30	BD 370A
BD 371B	N	TO-237A	750	1.5	60	40	400#	100	1	0.7	1	50	30	BD 370B
BD 371C	N	TO-237A	750	1.5	80	40	400#	100	1	0.7	1	50	30	BD 370C
BFR 10	N	TO-39	800	—	40	60	120	150	10	0.22	0.15	250	8	—
BFR 11	N	TO-18	400	—	40	60	120	150	10	0.22	0.15	250	8	—
BFR 18	N	TO-18	500	0.5	55	60	180	150	1	0.25	0.15	60	20	—
BFR 19	N	TO-39	800	1	35	40	120	150	1	0.25	0.15	60	20	—
BFR 20	N	TO-39	800	1	35	90	450	150	1	0.25	0.15	60	20	—
BFR 21	N	TO-39	800	1	70	40	—	150	1	0.25	0.15	60	20	—
BFR 22	N	TO-39	5000▲	1	65	40	120	150	10	0.15	0.15	—	15	—
BFR 23	P	TO-39	7000▲	1	65	40	140	150	10	0.65	0.15	—	30	—
BFR 24	P	TO-39	7000▲	1	40	50	250	150	10	1.4	0.15	—	30	—
BFR 77	N	TO-39	600	1	80	40	120	150	10	0.5	0.15	50	15	—
BFS 92	P	TO-39	300	0.2	60	30	—	150	10	0.25	0.01	40	20	—
BFS 93	P	TO-39	800	1	60	70	—	150	10	0.35	0.15	40	20	—
BFS 94	P	TO-39	800	1	40	40	—	150	10	0.2	0.15	40	20	—
BFS 95	P	TO-39	800	1	35	70	—	150	10	0.2	0.15	40	20	—
BFT 29	N	TO-18	360	1	80	50	250	100	10	0.95	0.5	100	10	—
BFT 30	N	TO-18	360	1	60	75	250	100	10	0.75	0.5	100	10	—
BFT 31	N	TO-18	360	1	50	100	300	100	10	0.75	0.5	100	10	—
BFT 39	N	TO-39	800	1	80	50	250	100	10	1.6	1	100	10	BFT 79
BFT 40	N	TO-39	800	1	60	75	250	100	10	1.0	1	100	10	BFT 80
BFT 41	N	TO-39	800	1	50	100	300	100	10	1.0	1	100	10	BFT 81
BFW 24	N	TO-39	800	1	60	40	120	150	1	1.0	1	60	25	—
BFW 25	N	TO-39	800	1	40	100	300	150	1	1.0	1	70	25	—
BFW 26	N	TO-39	800	1	40	40	120	150	1	1.0	1	60	25	—
BFW 29	N	TO-39	600	0.4	30	45	—	6	15	0.5	0.15	40	25	—
BFW 31	P	TO-18	500	0.7	30	70	—	100	10	0.4	0.1	—	12	—
BFW 32	N	TO-18	500	0.7	30	70	—	100	10	0.4	0.1	—	12	—
BFW 33	N	TO-39	800	—	80	40	120	150	10	5	0.15	50	15	—
BFW 34	N	TO-39	600	0.2	30	45	—	6	15	0.5	0.05	70	10	—
BFW 35	N	TO-39	600	0.2	30	80	150	6	15	0.5	0.05	70	10	—
BFW 80	N	TO-39	600	0.2	30	90	—	6	15	0.5	0.05	70	10	—

\* With x-67 heat sink # HFE groupings available ▲ T<sub>c</sub> = 25°C

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			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
BFX 29	P	TO-39	600	0.6	60	50	125	10	10	0.4	0.15	100	12	-
BFX 30	P	TO-39	600	0.6	65	50	200	10	0.4	-	-	100	12	-
BFX 35	P	TO-18	360	-	40	80	-	10	10	0.3	0.05	200	10	-
BFX 38	P	TO-39	800	1	55	85	-	100	5	0.5	0.5	100	20	-
BFX 39	P	TO-39	800	1	55	40	-	100	5	0.5	0.5	100	20	-
BFX 40	P	TO-39	800	1	75	40	-	100	5	0.5	0.5	100	20	-
BFX 41	P	TO-39	800	1	75	85	-	100	5	0.5	0.5	100	20	-
BFX 68	N	TO-39	700	-	30	100	300	150	10	1.5	0.15	70	25	-
BFX 69	N	TO-39	800	-	30	40	120	150	10	1.5	0.15	60	25	-
BFX 69A	N	TO-39	800	-	40	40	-	150	10	1.2	0.5	60	20	-
BFX 74	P	TO-39	600	-	35	30	90	150	10	1.5	0.15	60	45	-
BFX 74A	P	TO-39	800	-	60	30	-	150	10	0.3	0.15	100	20	-
BFX 84	N	TO-39	800	1	60	30	-	150	10	0.35	0.15	50	12	-
BFX 85	N	TO-39	800	1	60	70	-	150	10	0.35	0.15	50	12	-
BFX 86	N	TO-39	800	1	35	70	-	150	10	0.35	0.15	50	12	-
BFX 87	P	TO-39	600	0.6	50	40	-	150	10	0.4	0.15	100	12	-
BFX 88	P	TO-39	600	0.6	40	40	-	150	10	0.4	0.15	100	12	-
BFX 94	N	TO-18	500	0.8	30	40	120	150	10	1.6	0.5	250	8	-
BFX 94A	N	TO-18	400	0.8	30	35	-	10	10	0.22	0.15	250	8	-
BFX 95	N	TO-18	500	0.8	30	100	300	150	10	1.6	0.5	250	8	-
BFX 95A	N	TO-18	400	0.8	30	100	300	150	10	0.22	0.15	250	8	-
BFX 96	N	TO-39	500	0.8	30	40	120	150	10	1.6	0.5	250	8	-
BFX 96A	N	TO-39	800	0.8	30	40	120	150	10	0.22	0.15	250	8	-
BFX 97	N	TO-39	500	0.8	30	100	300	150	10	1.6	0.5	250	8	-
BFX 97A	N	TO-39	800	0.8	30	100	300	150	10	0.22	0.15	250	8	-
BFY 33	N	TO-39	800	0.5	24	40	-	150	10	1.5	0.15	40	20	-
BFY 34	N	TO-39	800	0.5	30	40	120	150	10	1.5	0.15	60	25	-
BFY 40	N	TO-39	800	0.8	30	40	-	10	10	1.85	0.15	-	20	-
BFY 41	N	TO-39	800	0.6	60	35	-	50	10	5	0.05	-	-	-
BFY 46	N	TO-39	2600Δ	0.5	30	100	300	150	10	1.5	0.15	-	-	-
BFY 50	N	TO-39	800	1	35	30	112+	150	10	0.2	0.15	60	12	-
BFY 51	N	TO-39	800	1	30	40	-	150	10	0.35	0.15	50	12	-
BFY 52	N	TO-39	800	1	20	60	-	150	10	0.35	0.15	50	12	-
BFY 53	N	TO-39	800	1	20	30	-	150	10	0.35	0.15	50	-	-
BFY 55	N	TO-39	800	1	35	40	-	150	6	0.2	0.15	60	-	-
BFY 56	N	TO-39	800	1	45	30	150	150	1	1.2	1	40	25	-
BFY 56A	N	TO-39	800	1	55	40	120	150	1	1.2	1	60	25	-
BFY 64	P	TO-39	700	-	40	80	-	10	10	1.8	0.5	200	10	-
BFY 67	N	TO-39	800	0.5	30	40	120	150	10	1.5	0.15	60	25	-
BFY 68	N	TO-39	800	0.5	30	100	300	150	10	1.5	0.15	70	25	-
BFY 72	N	TO-39	800	-	28	40	150	150	10	0.7	0.5	250	8	-
BFY 94	P	TO-39	3000Δ	-	40	40	-	0.1	10	0.4	0.05	100	20	-
BSV 15	P	TO-39	5000Δ	1	40	40	250#	100	1	1	0.5	50	30	-
BSV 16	P	TO-39	5000Δ	1	60	40	250#	100	1	1	0.5	50	30	-
BSV 17	P	TO-39	5000Δ	1	80	40	160#	100	1	1	0.5	50	25	-
C 055	P	TO-92A	800*	1.5	20	50	360#	100	1	0.4	0.5	120+	-	C 066
C 055P	P	TO-237A	750	1.5	20	50	360#	100	1	0.4	0.5	120+	-	C 066P
C 066	N	TO-92A	800*	1.5	20	50	360#	100	1	0.4	0.5	120+	-	C 055
C 066P	N	TO-237A	750	1.5	20	50	360#	100	1	0.4	0.5	120+	-	C 055P
C 155	P	TO-92A	800*	2	25	50	360#	100	1	0.45	1	120+	-	C 166
C 155P	P	TO-237A	750	2	25	50	360#	100	1	0.45	1	120+	-	C 166P
C 166	N	TO-92A	800*	2	25	50	360#	100	1	0.45	1	120+	-	C 155
C 166P	N	TO-237A	750	2	25	50	360#	100	1	0.45	1	120+	-	C 155P
C 168	N	TO-92B	625	3	7	300	-	10	1	0.6	2	120+	40+	-

▲ T<sub>C</sub> = 25°C \* With x-67 heat sink # HFE groupings available + Typical value

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CE0</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
C 169	N	TO-92B	625	3	9	180	360	100	1	0.4	1	100+	40+	-
C 266	N	TO-92A	625	2	60	45	-	100	10	0.5	0.5	-	-	-
C 266P	N	TO-237A	750	2	60	25	-	1	10	0.5	0.5	-	-	-
C 855	P	TO-92A	625*	1.5	60	50	240#	100	2	0.5	0.5	50	25	C 866
C 866	N	TO-92A	625*	1.5	60	50	240#	100	2	0.5	0.5	50	25	C 855
CS 9012	P	TO-92A	625	-	25/12	64	202#	50	1	1	0.25	-	-	-
CS 9013	N	TO-92A	625	-	25/12	64	202#	50	1	1	0.25	-	-	-
CX 906	N	TO-92A	500	0.5	40	50	360#	50	1	0.5	0.25	80	8	CX 956
CX 908	N	TO-92A	625*	1	40	80	360#	100	1	0.5	0.5	60	18	CX 958
CX 956	P	TO-92A	500	0.5	40	50	360#	50	1	0.5	0.25	80	8	CX 906
CX 958	P	TO-92A	625*	1	40	80	360#	100	1	0.5	0.5	60	18	CX 908
KM 904	N	TO-92A	500	0.5	20	64	246#	50	1	0.6	0.15	200+	4.8+	KM 905
KM 905	P	TO-92A	500	0.5	20	64	246#	50	1	0.6	0.15	120+	9+	KM 904
KM 934	N	TO-92A	500	0.5	30	80	360#	50	1	0.6	0.15	180+	4+	KM 935
KM 935	P	TO-92A	500	0.5	30	80	360#	50	1	0.6	0.15	180+	5+	KM 934
MA 8001	N	TO-39	800	0.5	30	30	-	150	10	0.5	0.15	100	12	-
MA 8002	N	TO-39	800	0.5	80	40	200	150	10	0.3	0.15	100	10	-
MA 8003	N	TO-39	800	0.5	60	100	350	150	10	0.3	0.15	100	10	-
MPS 3702	P	TO-92A	360	0.2	25	60	300	50	5	0.25	0.05	100	12	MPS 3704
MPS 3703	P	TO-92A	360	0.2	30	50	150	50	5	0.25	0.05	100	12	MPS 3706
MPS 3704	N	TO-92A	360	0.8	30	100	300	50	2	0.6	0.1	100	12	MPS 3702
MPS 3705	N	TO-92A	360	0.8	30	50	150	50	2	0.8	0.1	100	12	MPS 3702
MPS 3706	N	TO-92A	360	0.8	20	30	600	50	2	1	0.1	100	12	MPS 3703
MPS 4354	P	TO-92A	625	1	60	50	500	10	10	0.5	0.5	100	30	PN 3567
MPS 4355	P	TO-92A	625	1	60	100	400	10	10	0.5	0.5	100	30	PN 3569
MPS 4356	P	TO-92A	625	1	80	50	250	10	10	0.5	0.5	100	30	PN 3568
MPS 6530	N	TO-92A	500	0.6	40	40	120	100	1	0.5	0.1	250+	5	MPS 6533
MPS 6531	N	TO-92A	500	0.6	40	90	270	100	1	0.3	0.1	250+	5	MPS 6534
MPS 6532	N	TO-92A	500	0.6	30	30	-	100	1	0.5	0.1	250+	5	MPS 6535
MPS 6533	P	TO-92A	500	0.6	40	40	120	100	1	0.5	0.1	250+	6	MPS 6530
MPS 6534	P	TO-92A	500	0.6	40	90	270	100	1	0.3	0.1	250+	6	MPS 6531
MPS 6535	P	TO-92A	500	0.6	30	30	-	100	1	0.5	0.1	250+	6	MPS 6532
MPS 6560	N	TO-92A	625	0.6	25	50	200	500	1	0.5	0.5	60	30	MPS 6562
MPS 6561	N	TO-92A	625	0.6	20	50	200	350	1	0.5	0.35	60	30	MPS 6563
MPS 6562	P	TO-92A	625	0.6	25	50	200	500	1	0.5	0.5	60	30	MPS 6560
MPS 6563	P	TO-92A	625	0.6	20	50	200	350	1	0.5	0.35	60	30	MPS 6561
MPS 6591	N	TO-92A	625	0.25	50	40	-	10	10	0.6	0.01	60	12	-
MPS 8000	N	TO-92A	625	0.5	60	30	-	100	2	0.3	0.1	-	-	-
MPS 9416	N	TO-92A	625	0.6	18	50	300#	350	1	0.55	0.5	-	-	MPS 9466
MPS 9416A	N	TO-92A	625	1	18	50	300#	350	1	0.55	0.5	300+	5.5+	MPS 9466A
MPS 9417	N	TO-92A	625	0.6	25	50	300#	350	1	0.55	0.5	-	-	MPS 9467
MPS 9417A	N	TO-92A	625	1	25	50	300#	350	1	0.55	0.5	300+	5.5+	MPS 9467A
MPS 9418	N	TO-92A	625	1.5	25	80	350#	350	4	0.6	1	300+	6+	MPS 9468
MPS 9466	P	TO-92A	625	0.6	18	50	300#	350	1	0.55	0.5	-	-	MPS 9416
MPS 9466A	P	TO-92A	625	1	18	50	300#	350	1	0.55	0.5	300+	12+	MPS 9416A
MPS 9467	P	TO-92A	625	0.6	25	50	300#	350	1	0.55	0.5	300+	-	MPS 9417
MPS 9468	P	TO-92A	625	1.5	25	80	350#	350	4	0.6	1	200+	18+	MPS 9418
MPS 9467A	P	TO-92A	625	1	25	50	300#	350	1	0.55	0.5	300+	12+	MPS 9417A
MPSA 05	N	TO-92A	625	0.5	60	50	-	100	1	0.25	0.1	50	20	MPSA 55
MPSA 06	N	TO-92A	625	0.5	80	50	-	100	1	0.25	0.1	50	20	MPSA 56
MPSA 55	P	TO-92A	625	0.5	60	50	-	100	1	0.25	0.1	100	20	MPSA 05
MPSA 56	P	TO-92A	625	0.5	80	50	-	100	1	0.25	0.1	100	20	MPSA 06
MPSD 05	N	TO-92A	350	0.5	25	50	-	50	5	0.5	0.1	100	-	MPSD 55
MPSD 55	P	TO-92A	350	0.5	25	50	-	50	5	0.5	0.1	100	-	MPSD 05

\* With x-67 heat sink = 800 mW # HFE groupings available + Typical value

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			Pd (mW)	Ic (A)	VCEO (V)	min	max	Ic (mA)	VCE (V)	max (V)	Ic (A)			
MSB 492	P	TO-92A	625*	2	25 •	80	360#	200	1	0.5	1	100+	28+	—
PN 2221	N	TO-92A	500	0.8	30	40	120	150	10	1.6	0.5	250	8	PN 2906
PN 2221A	N	TO-92A	500	0.8	40	40	120	150	10	1	0.5	250	8	PN 2906A
PN 2222	N	TO-92A	500	0.8	30	100	300	150	10	1.6	0.5	250	8	PN 2907
PN 2222A	N	TO-92A	500	0.8	40	100	300	150	10	1	0.5	300	8	PN 2907A
PN 2906	P	TO-92A	400	0.6	40	40	120	150	10	1.6	0.5	200	8	PN 2221
PN 2906A	P	TO-92A	400	0.6	60	40	120	150	10	1.6	0.5	200	8	PN 2221A
PN 2907	P	TO-92A	400	0.6	40	100	300	150	10	1.6	0.5	200	8	PN 2222
PN 2907A	P	TO-92A	400	0.6	60	100	300	150	10	1.6	0.5	200	8	PN 2222A
PN 3567	N	TO-92A	625	1	40	40	120	150	1	0.25	0.15	60	20	MPS 4354
PN 3568	N	TO-92A	625	1	60	40	120	150	1	0.25	0.15	60	20	MPS 4356
PN 3569	N	TO-92A	625	1	40	100	300	150	1	0.25	0.15	60	20	MPS 4355
2N 656	N	TO-39	800	0.6	60	30	90	200	10	4	0.2	40	20	—
2N 697	N	TO-39	600	0.5	40 •	40	120	150	10	1.5	0.15	50	35	—
2N 699	N	TO-39	600	1	80 •	40	120	150	10	5	0.15	50	20	—
2N 699A	N	TO-39	800	1	80 •	40	120	150	10	5	0.15	50	20	—
2N 699B	N	TO-39	870	1	80 •	40	120	150	10	5	0.15	60	15	—
2N 1132	P	TO-39	600	0.6	35	30	90	150	10	1.5	0.15	60	45	—
2N 1420	N	TO-39	600	1	30 •	100	300	150	10	1.5	0.15	50	35	—
2N 1507	N	TO-39	600	1	30 •	100	300	150	10	1.5	0.15	50	35	—
2N 1566	N	TO-39	600	0.1	60	80	200	5	5	1	0.01	60	10	—
2N 1613	N	TO-39	800	0.5	50 •	40	120	150	10	1.5	0.15	60	25	—
2N 1613A	N	TO-39	1000	0.5	50 •	40	120	150	10	1	0.15	60	25	—
2N 1613B	N	TO-39	1000	0.5	55 •	40	120	150	10	0.2	0.15	60	10	—
2N 1711	N	TO-39	800	1	50 •	100	300	150	10	1.5	0.15	70	25	—
2N 1711A	N	TO-39	1000	1	50 •	100	300	150	10	1	0.15	70	25	—
2N 1711B	N	TO-39	1000	1	55 •	100	300	150	10	0.2	0.15	70	10	—
2N 1889	N	TO-39	800	1	60	40	120	150	10	5	0.15	50	15	—
2N 1890	N	TO-39	800	1	60	100	300	150	10	5	0.15	60	15	—
2N 1893	N	TO-39	800	0.5	80	40	120	150	10	5	0.15	50	15	—
2N 1973	N	TO-39	800	1	80 •	75	—	10	10	1.2	0.05	60	15	—
2N 1974	N	TO-39	800	1	80 •	35	—	10	10	1.2	0.05	50	15	—
2N 1975	N	TO-39	800	1	80 •	15	—	10	10	1.2	0.05	40	15	—
2N 1983	N	TO-39	600	1	25	80	240	5	5	0.25	0.005	40	45	—
2N 1984	N	TO-39	600	1	25	40	120	5	5	0.25	0.005	40	45	—
2N 1985	N	TO-39	600	1	25	20	80	5	5	—	—	40	45	—
2N 1986	N	TO-39	600	0.3	25	60	240	150	10	1.5	0.15	40	35	—
2N 1987	N	TO-39	600	0.3	25	20	80	150	10	1.5	0.15	40	35	—
2N 1988	N	TO-39	600	1	45	35	120	30	10	2	0.03	40	20	—
2N 1989	N	TO-39	600	1	45	20	60	30	10	2	0.03	40	20	—
2N 2017	N	TO-39	1000	1	60	50	200	200	10	2	0.2	—	—	—
2N 2049	N	TO-39	800	0.5	50	100	300	150	10	0.4	0.01	50	25	—
2N 2102	N	TO-39	1000	1	65	40	120	150	10	0.5	0.15	60	10	2N 4036
2N 2192	N	TO-39	800	1	40	100	300	150	10	0.35	0.15	50	20	—
2N 2192A	N	TO-39	800	1	40	100	300	150	10	0.25	0.15	50	20	—
2N 2192B	N	TO-39	800	1	40	100	300	150	10	0.18	0.15	50	20	—
2N 2193	N	TO-39	800	1	50	40	120	150	10	0.35	0.15	50	20	—
2N 2193A	N	TO-39	800	1	50	40	120	150	10	0.25	0.15	50	20	—
2N 2193B	N	TO-39	800	1	50	40	120	150	10	0.18	0.15	50	20	—
2N 2195	N	TO-39	800	1	25	20	—	150	10	0.35	0.15	50	20	—
2N 2195A	N	TO-39	800	1	25	20	—	150	10	0.25	0.15	50	20	—
2N 2195B	N	TO-39	800	1	25	20	—	150	10	0.18	0.15	50	20	—

\* With x-67 heatsink # HFE groupings available • V<sub>CE</sub>R + Typical value

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
2N 2218	N	TO-39	800	0.8	30	40	120	150	10	0.4	0.15	250	8	-
2N 2218A	N	TO-39	800	0.8	40	40	120	150	10	1.0	0.5	250	8	-
2N 2219	N	TO-39	800	0.8	30	100	300	150	10	0.4	0.15	250	8	-
2N 2219A	N	TO-39	800	0.8	40	100	300	150	10	1.0	0.5	250	8	-
2N 2221	N	TO-18	500	0.8	30	40	120	150	10	0.4	0.15	250	8	-
2N 2221A	N	TO-18	500	0.8	40	40	120	150	10	1.0	0.5	250	8	-
2N 2222	N	TO-18	500	0.8	30	100	300	150	10	0.4	0.15	250	8	-
2N 2222A	N	TO-18	500	0.8	40	100	300	150	10	1.0	0.5	300	8	-
2N 2237	N	TO-39	600	0.5	20	40	125	100	1	0.25	0.1	100	35	-
2N 2243	N	TO-39	800	1	80	40	120	150	10	0.25	0.15	50	15	-
2N 2243A	N	TO-39	800	1	80	40	120	150	10	0.25	0.15	50	15	-
2N 2297	N	TO-39	800	1	35	40	120	150	10	0.2	0.15	60	12	-
2N 2303	P	TO-39	600	0.5	35	75	200	150	10	1.5	0.15	60	45	-
2N 2309	N	TO-39	600	0.5	30	25	125	0.2	4	-	-	40	25	-
2N 2380	N	TO-39	600	0.5	40	20	120	150	5	1.3	0.15	100	14	-
2N 2380A	N	TO-39	600	0.5	40	20	120	150	5	1.3	0.15	100	14	-
2N 2405	N	TO-39	1000	1	90	60	200	150	10	0.5	0.15	50	15	-
2N 2479	N	TO-39	600	0.5	40	30	120	150	1.5	0.85	0.15	150	14	-
2N 2800	P	TO-39	800	0.8	35	30	90	150	10	0.4	0.15	120	25	-
2N 2801	P	TO-39	800	0.8	35	75	225	150	10	0.4	0.15	120	25	-
2N 2837	P	TO-18	500	0.8	35	30	90	150	10	0.4	0.15	120	25	-
2N 2838	P	TO-18	500	0.8	35	75	225	150	10	0.4	0.15	120	25	-
2N 2868	N	TO-39	800	1	40	40	120	150	10	0.25	0.15	50	20	-
2N 2897	N	TO-18	500	1	45	50	200	150	10	1	0.15	100	15	-
2N 2904	P	TO-39	600	0.6	40	40	120	150	10	0.4	0.15	200	8	-
2N 2905	P	TO-39	600	0.6	40	100	300	150	10	1.6	0.5	200	8	-
2N 2905A	P	TO-39	600	0.6	60	100	300	150	10	1.6	0.5	200	8	-
2N 2906	P	TO-18	400	0.6	40	40	120	150	10	0.4	0.15	200	8	-
2N 2906A	P	TO-18	400	0.6	60	40	120	150	10	1.6	0.5	200	8	-
2N 2907	P	TO-18	400	0.6	40	100	300	150	10	1.6	0.5	200	8	-
2N 2907A	P	TO-18	400	0.6	60	100	300	150	10	1.6	0.5	200	8	-
2N 2927	P	TO-39	800	0.5	25	30	130	50	1	0.25	0.05	100	20	-
2N 2958	N	TO-39	600	0.6	20	40	120	150	10	0.5	0.15	250	8	-
2N 2959	N	TO-39	600	0.6	20	100	300	150	10	0.5	0.15	250	8	-
2N 3019	N	TO-39	800	1	80	100	300	150	10	0.5	0.5	100	12	2N 4033
2N 3020	N	TO-39	800	1	80	40	120	150	10	0.5	0.5	80	12	2N 4031
2N 3036	N	TO-39	800	1	80	50	150	150	10	0.25	0.15	50	15	-
2N 3053	N	TO-39	1000	0.7	40	50	250	150	10	1.4	0.15	100	15	2N 4037
2N 3053A	N	TO-39	1000	0.7	60	50	250	150	10	0.3	0.15	100	15	-
2N 3072	P	TO-39	800	0.5	60	30	130	50	1	1	0.3	130	10	-
2N 3073	P	TO-18	360	0.5	60	30	130	50	1	1	0.3	130	10	-
2N 3081	P	TO-39	600	0.6	50	30	90	150	10	0.3	0.15	150	13	-
2N 3107	N	TO-39	800	1	60	100	300	150	10	1	1	70	20	2N 4032
2N 3108	N	TO-39	800	1	60	40	120	150	10	0.25	0.15	60	20	2N 4030
2N 3109	N	TO-39	800	1	40	100	300	150	10	1	1	70	25	2N 4033
2N 3110	N	TO-39	800	1	40	40	120	150	10	0.25	0.15	60	25	-
2N 3115	N	TO-18	400	0.6	20	40	120	150	10	0.5	0.15	250	8	-
2N 3116	N	TO-18	400	0.6	20	100	300	150	10	0.5	0.15	250	8	-
2N 3120	P	TO-39	800	0.5	45	30	130	50	1	1	0.5	130	10	-
2N 3121	P	TO-18	360	0.5	45	30	130	50	1	1	0.5	130	10	-
2N 3133	P	TO-39	600	0.6	35	40	120	150	10	0.6	0.15	200	10	-
2N 3134	P	TO-39	600	0.6	35	100	300	150	10	0.6	0.15	200	10	-
2N 3135	P	TO-18	400	0.6	35	40	120	150	10	0.6	0.15	200	10	-
2N 3136	P	TO-18	400	0.6	35	100	300	150	10	0.6	0.15	200	10	-
2N 3252	N	TO-39	1000	1	30	30	90	500	1	0.5	0.5	200	12	-

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	Cob max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
2N 3253	N	TO-39	1000	1	40	25	75	500	1	0.6	0.5	175	12	-
2N 3299	N	TO-39	800	0.5	30	40	120	150	10	0.6	0.5	250	8	-
2N 3300	N	TO-39	800	0.5	30	100	300	150	10	0.6	0.5	250	8	-
2N 3301	N	TO-18	360	0.5	30	40	120	150	10	0.6	0.5	250	8	-
2N 3302	N	TO-18	360	0.5	30	100	300	150	10	0.6	0.5	250	8	-
2N 3326	N	TO-39	800	0.8	45	40	120	150	10	1.6	0.5	250	8	-
2N 3402	N	TO-92B*	560*	0.5	25	75	225	2	4.5	0.3	0.05	-	-	-
2N 3403	N	TO-92B*	560*	0.5	25	180	540	2	4.5	0.3	0.05	-	-	-
2N 3404	N	TO-92B*	560*	0.5	50	75	225	2	4.5	0.3	0.05	-	-	-
2N 3405	N	TO-92B*	560*	0.5	50	180	540	2	4.5	0.3	0.05	-	-	-
2N 3414	N	TO-92B*	360	0.5	25	75	225	2	4.5	0.3	0.05	-	-	-
2N 3415	N	TO-92B*	360	0.5	25	180	540	2	4.5	0.3	0.05	-	-	-
2N 3416	N	TO-92B*	360	0.5	50	75	225	2	4.5	0.3	0.05	-	-	-
2N 3417	N	TO-92B*	360	0.5	50	180	540	2	4.5	0.3	0.05	-	-	-
2N 3444	N	TO-39	1000	1	50	20	60	500	1	0.6	0.5	175	12	-
2N 3502	P	TO-39	800	0.6	45	100	300	150	10	1	0.3	200	8	-
2N 3503	P	TO-39	800	0.6	60	100	300	150	10	1	0.3	200	8	-
2N 3504	P	TO-18	400	0.6	45	100	300	150	10	1	0.3	200	8	-
2N 3505	P	TO-18	400	0.6	60	100	300	150	10	1	0.3	200	8	-
2N 3700	N	TO-18	500	1	80	100	300	150	10	0.5	0.5	100	12	-
2N 3701	N	TO-18	500	1	80	40	120	150	10	0.5	0.5	80	12	-
2N 3702	P	TO-92B	360	0.2	25	60	300	50	5	0.25	0.05	100	12	2N 3704
2N 3703	P	TO-92B	360	0.2	30	30	150	50	5	0.25	0.05	100	12	2N 3706
2N 3704	N	TO-92B	360	0.8	30	100	300	50	2	0.6	0.1	100	12	2N 3702
2N 3705	N	TO-92B	360	0.8	30	50	150	50	2	0.8	0.1	100	12	2N 3702
2N 3706	N	TO-92B	360	0.8	20	30	600	50	2	1	0.1	100	12	2N 3703
2N 3724	N	TO-39	800	0.5	30	60	150	100	1	0.75	1	300	12	-
2N 3724A	N	TO-39	1000	1.2	30	60	150	100	1	0.65	0.8	300	12	-
2N 3725	N	TO-39	800	0.5	50	60	150	100	1	0.95	1	300	10	-
2N 3793	N	TO-92B	250	0.5	20	20	120	10	10	0.4	10	100	10	-
2N 3794	N	TO-92B	250	0.5	20	100	600	10	10	0.4	10	100	10	-
2N 3831	N	TO-39	1000	1.2	40	35	-	150	1	0.3	0.15	200	12	-
2N 3945	N	TO-39	5000▲	1	50	40	250	150	10	0.5	0.15	60	12	-
2N 4030	P	TO-39	800	1	60	40	120	100	5	0.5	0.5	100	20	2N 3108
2N 4031	P	TO-39	800	1	80	40	120	100	5	0.5	0.5	100	20	2N 3020
2N 4032	P	TO-39	800	1	60	100	300	100	5	0.5	0.5	150	20	2N 3107
2N 4033	P	TO-39	800	1	80	100	300	100	5	0.5	0.5	150	20	2N 3109
2N 4036	P	TO-39	1000	1	65	40	140	150	10	0.65	0.15	60	30	2N 2102
2N 4037	P	TO-39	1000	1	40	50	250	150	10	1.4	0.15	60	30	2N 3053
2N 4046	N	TO-39	800	0.5	30	40	150	100	1	0.65	0.8	250	12	-
2N 4047	N	TO-39	800	0.5	50	40	150	100	1	0.8	0.8	250	10	-
2N 4140	N	TO-106	300	0.2	30	40	120	150	10	0.4	0.15	250	8	-
2N 4141	N	TO-106	300	0.2	30	100	300	150	10	0.4	0.15	250	8	-
2N 4142	P	TO-106	300	0.2	40	40	120	150	10	0.4	0.15	200	8	-
2N 4143	P	TO-106	300	0.2	40	100	300	150	10	0.4	0.15	200	8	-
2N 4227	N	TO-106	300	0.2	30	75	150	150	10	0.4	0.15	250	8	-
2N 4228	P	TO-106	300	0.2	40	75	150	150	10	0.4	0.15	200	8	-
2N 4234	P	TO-39	1000	3	40	30	150	250	1	0.6	1	3	100	2N 4237
2N 4235	P	TO-39	1000	3	60	30	150	250	1	0.6	1	3	100	2N 4238
2N 4236	P	TO-39	1000	1	80	30	150	250	1	0.6	1	3	100	2N 4239
2N 4237	N	TO-39	1000	1	40	30	150	250	1	0.6	1	2	100	2N 4234
2N 4238	N	TO-38	1000	1	60	30	150	250	1	0.6	1	2	100	2N 4235
2N 4239	N	TO-39	1000	1	80	30	150	250	1	0.3	0.5	2	100	2N 4236
2N 4314	P	TO-39	1000	1	65	50	250	150	10	1.4	0.15	60	30	-
2N 4400	N	TO-92A	500♦	0.6	40	50	150	150	1	0.75	0.5	200	6.5	2N 4402

\* With x-67 heat sink ▲ T<sub>C</sub> = 25°C ♦ 310 mW in JEDEC registration



# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			H <sub>FE</sub>				V <sub>CE(SAT)</sub>		f <sub>T</sub> min (MHz)	C <sub>ob</sub> max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
2N 4401	N	TO-92A	500♦	0.6	40	100	300	150	1	0.75	0.5	250	6.5	2N 4403
2N 4402	P	TO-92A	500♦	0.6	40	50	150	150	1	0.75	0.5	150	8.5	2N 4400
2N 4403	P	TO-92A	500♦	0.6	40	100	300	150	1	0.75	0.5	200	8.5	2N 4401
2N 4409	N	TO-92A	625	250	50	60	400	10	1	0.2	0.001	60	12	-
2N 4424	N	TO-92B	360	0.5	40	180	540	2	4.5	0.3	0.05	-	-	-
2N 4425	N	TO-92B*	560*	0.5	40	180	540	2	4.5	0.3	0.05	-	-	-
2N 4944	N	TO-106	600	0.5	40	40	120	150	1	0.25	0.15	60	25	-
2N 4945	N	TO-106	600	0.5	60	40	120	150	1	0.25	0.15	60	20	-
2N 4946	N	TO-106	600	0.5	40	100	300	150	1	0.25	0.15	60	25	-
2N 4951	N	TO-92B	360	0.5	30	60	200	150	10	0.3	0.15	250	8	-
2N 4952	N	TO-92B	360	0.5	30	100	300	150	10	0.3	0.15	250	8	-
2N 4953	N	TO-92B	360	0.5	30	200	600	150	10	0.3	0.15	250	8	-
2N 4954	N	TO-92B	360	0.5	30	60	600	150	10	0.3	0.15	250	8	-
2N 4969	N	TO-106	200	0.5	30	40	120	150	10	0.4	0.15	200	8	-
2N 4970	N	TO-106	200	0.5	30	100	350	150	10	0.4	0.15	200	8	-
2N 4971	P	TO-106	200	0.5	40	40	120	150	10	0.15	0.15	200	8	-
2N 4972	P	TO-106	200	0.5	40	100	300	150	10	0.4	0.15	200	8	-
2N 5022	P	TO-39	1000	0.5	50	25	100	500	1	0.2	0.1	170	25	-
2N 5023	P	TO-39	1000	0.5	30	40	100	500	1	0.17	0.1	200	25	-
2N 5042	P	TO-39	800	1	40	40	150	150	1	1.3	1	100	35	2N 3110
2N 5143	P	TO-106	200	0.5	20	30	-	50	1	2	0.3	100	10	-
2N 5220	N	TO-92A	350	0.5	15	30	600	50	10	0.5	0.15	100	10	2N 5221
2N 5221	P	TO-92A	350	0.5	15	30	600	50	10	0.5	0.15	100	15	2N 5220
2N 5225	N	TO-92A	350	0.2	25	30	600	50	10	0.8	0.1	50	20	2N 5226
2N 5226	P	TO-92A	350	0.2	25	30	600	50	10	0.8	0.1	50	20	2N 5225
2N 5354	P	TO-92B*	360	0.5	25	40	120	50	1	1	0.3	100	8	-
2N 5355	P	TO-92B*	360	0.5	25	100	300	50	1	1	0.3	100	8	-
2N 5356	P	TO-92B*	360	0.5	25	250	500	50	1	1	0.3	100	8	-
2N 5365	P	TO-92B*	360	0.5	40	40	120	50	1	1	0.3	100	8	-
2N 5366	P	TO-92B*	360	0.5	40	100	300	50	1	1	0.3	100	8	-
2N 5367	P	TO-92B*	360	0.5	40	250	500	50	1	1	0.3	100	8	-
2N 5368	N	TO-92F	500▲	0.5	30	60	200	150	10	0.3	0.15	250	8	2N 5372
2N 5369	N	TO-92F	500▲	0.5	30	100	300	150	10	0.3	0.15	250	8	2N 5373
2N 5370	N	TO-92F	500▲	0.5	30	200	600	150	10	0.3	0.15	250	8	2N 5374
2N 5371	N	TO-92F	500▲	0.5	30	60	600	150	10	0.3	0.15	250	8	2N 5375
2N 5372	P	TO-92F	500▲	0.5	30	40	120	150	10	0.3	0.15	150	10	2N 5368
2N 5373	P	TO-92F	500▲	0.5	30	100	300	150	10	0.3	0.15	150	10	2N 5369
2N 5374	P	TO-92F	500▲	0.5	30	200	400	150	10	0.3	0.15	150	10	2N 5370
2N 5375	P	TO-92F	500▲	0.5	30	40	400	150	10	0.3	0.15	150	12	2N 5371
2N 5418	N	TO-92B	400	0.5	25	40	120	50	1	1	0.3	-	6	-
2N 5419	N	TO-92B	400	0.5	25	100	300	50	1	1	0.3	-	6	-
2N 5420	N	TO-92B	400	0.5	25	250	500	50	1	1	0.3	-	6	-
2N 5447	P	TO-92F	500▲	0.2	25	60	300	50	5	0.25	0.05	100	12	2N 5449
2N 5448	P	TO-92F	500▲	0.2	30	30	150	50	5	0.25	0.05	100	12	2N 5450
2N 5449	N	TO-92F	500▲	0.8	30	100	300	50	2	0.6	0.1	100	12	2N 5447
2N 5450	N	TO-92F	500▲	0.8	30	50	150	50	2	0.8	0.1	100	12	2N 5448
2N 5451	N	TO-92F	360	0.8	20	30	600	50	2	1	0.1	100	12	-
2N 5810	N	TO-92F	625*	0.75	25	60	200	2	2	0.75	0.5	100	15	2N 5811
2N 5811	P	TO-92F	625*	0.75	25	60	200	2	2	0.75	0.5	100	15	2N 5810
2N 5812	N	TO-92F	625*	0.75	25	150	500	2	2	0.75	0.5	135	15	2N 5813
2N 5813	P	TO-92F	625*	0.75	25	150	500	2	2	0.75	0.5	135	15	2N 5812
2N 5814	N	TO-92F	625*	0.75	40	60	120	2	2	0.75	0.5	100	15	2N 5815
2N 5815	P	TO-92F	625*	0.75	40	60	120	2	2	0.75	0.5	100	15	2N 5814
2N 5816	N	TO-92F	625*	0.75	40	100	200	2	2	0.75	0.5	120	15	2N 5817
2N 5817	P	TO-92F*	800*	0.75	40	100	200	2	2	0.75	0.5	120	15	2N 5816

\* With x-67 heat sink ▲ 360 mW in JEDEC registration ♦ 310 mW in JEDEC registration

# Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				VCE(SAT)		f <sub>T</sub> min (MHz)	C <sub>ob</sub> max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
2N 5818	N	TO-92F*	800*	0.75	40	150	300	2	2	0.75	0.5	135	15	2N 5819
2N 5819	P	TO-92F*	800*	0.75	40	150	300	2	2	0.75	0.5	135	15	2N 5818
2N 5820	N	TO-92F*	800*	1	60	60	120	2	2	0.75	0.5	140+	15	2N 5821
2N 5821	P	TO-92F*	800*	1	60	60	120	2	2	0.75	0.5	140+	15	2N 5820
2N 5822	N	TO-92F*	800*	1	60	100	200	2	2	0.75	0.5	140+	15	2N 5823
2N 5823	P	TO-92F*	800*	1	60	100	200	2	2	0.75	0.5	140+	15	2N 5822
2SA 497	P	TO-39	600	0.8	80	40	240#	200	2	0.8	0.2	70+	33+	2SC 497
2SA 498	P	TO-39	600	0.8	50	40	240#	200	2	0.8	0.2	70+	33+	2SC 498
2SA 503	P	TO-39	800	0.6	50	30	300#	150	2	0.5	0.15	50	30	2SC 503
2SA 504	P	TO-39	800	0.6	30	30	300#	150	2	0.5	0.15	50	30	2SC 504
2SA 532	P	TO-39	500	0.2	50	40	320#	50	6	1.5	0.1	100+	-	-
2SA 539	P	TO-92B	250	0.2	45	50	232#	50	1	0.5	0.15	100	5.5+	2SC 815
2SA 544	P	TO-39	750	0.2	45	40	200#	10	10	0.4	0.03	80	7	-
2SA 545	P	TO-92B*	400	0.2	60	50	232#	50	1	0.5	0.15	100	7	2SC 853
2SA 606	P	TO-39	700▲	0.7	80	40	200#	200	5	2	0.5	50	50	-
2SA 642	P	TO-92B	250	0.3	15	65	400#	50	1	0.6	0.3	180+	30	2SD 227
2SA 643	P	TO-92B	500	0.5	20	60	285#	100	1	0.6	0.5	110+	30	2SD 261
2SA 659	P	TO-92B	300	0.2	50	40	320#	50	6	1.5	0.1	90+	-	2SC 1175
2SA 708	P	TO-39	800	0.7	60	80	240#	50	2	0.7	0.5	100+	25+	-
2SA 719	P	TO-92B	400	0.5	25	60	340#	150	10	0.6	0.5	160+	15	2SC 1317
2SA 720	P	TO-92B	400	0.5	50	60	340#	150	10	0.6	0.5	160+	15	2SC 1318
2SA 723	P	TO-92B	250	0.5	20	60	285#	100	1	0.6	0.5	110+	-	2SD 327
2SA 730	P	TO-92B*	600	0.5	25	60	340#	150	10	0.6	0.5	160+	15	2SC 1346
2SA 731	P	TO-92B*	600	0.5	50	60	340#	150	10	0.6	0.5	160+	15	2SC 1347
2SA 733	P	TO-92B	250	0.1	40	60	600#	1	6	0.5	0.03	50	12	2SC 945
2SA 817	P	TO-92B	600	0.3	80	70	240#	50	2	0.4	0.2	100+	17+	2SC 1627
2SA 890	P	TO-92A	625	0.5	25	60	340#	150	10	0.6	0.5	200+	15	2SC 1851
2SA 891	P	TO-92A	625	0.5	50	60	340#	150	10	0.6	0.5	200+	15	2SC 1852
2SA 950	P	TO-92B	600	0.8	25	100	320#	100	1	0.7	0.5	120+	19+	2SC 2120
2SB 560	P	TO-92B	750	0.7	80	60	320#	50	5	0.8	0.5	100+	15+	2SD 438
2SB 598	P	TO-92B	500	1	20	60	560#	50	2	0.5	0.5	180+	25+	2SD 545
2SB 621	P	TO-92B	600	1.5	25	60	-	500	10	-	-	200+	20+	-
2SC 32	N	TO-39	750	0.2	25	40	110	10	10	0.5	0.03	120	7	-
2SC 497	N	TO-39	600	0.8	80	40	240#	200	2	0.8	0.2	50+	15+	2SA 497
2SC 498	N	TO-39	600	0.8	50	40	240#	200	2	0.8	0.2	50+	15+	2SA 498
2SC 503	N	TO-39	800	0.6	50	30	300#	150	2	0.5	0.15	50	30	2SA 503
2SC 504	N	TO-39	800	0.6	30	30	300#	150	2	0.5	0.15	50	30	2SA 504
2SC 815	N	TO-92B	250	0.2	45	50	232#	50	1	0.5	0.15	100	8	2SA 539
2SC 853	N	TO-92B*	400	0.2	60	50	232#	50	1	0.5	0.15	150+	-	2SA 545
2SC 875	N	TO-39	500	0.2	75	40	320#	50	6	1.5	0.1	170+	5+	-
2SC 876	N	TO-39	500	0.2	50	40	320#	50	6	1.5	0.1	170+	5+	-
2SC 881	N	TO-92B*	400	0.2	45	50	232#	50	1	0.5	0.15	150+	-	-
2SC 933	N	TO-92B	300	0.3	30	40	560#	20	5	-	-	-	-	-
2SC 934	N	TO-92B	300	0.3	15	40	560#	20	5	-	-	-	-	-
2SC 938	N	TO-92B	250	0.2	60	50	232#	50	1	0.5	0.15	150+	-	-
2SC 959	N	TO-39	700	0.7	80	40	200#	200	5	2	0.5	50	50	-
2SC 1008	N	TO-39	800	0.7	60	80	240#	50	2	0.7	0.5	75+	17+	-
2SC 1175	N	TO-92B	300	0.2	50	40	320#	50	6	1.5	0.1	170+	-	2SA 659
2SC 1317	N	TO-92B	400	0.5	25	60	340#	150	10	0.6	0.5	200+	15	2SA 719
2SC 1318	N	TO-92B	400	0.5	50	60	340#	150	10	0.6	0.5	200+	15	2SA 720
2SC 1346	N	TO-92B	600	0.5	25	60	340#	150	10	0.6	0.5	200+	15	2SA 730
2SC 1347	N	TO-92B	600	0.5	50	60	340#	150	10	0.6	0.5	200+	15	2SA 731

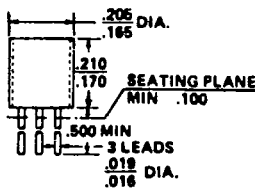
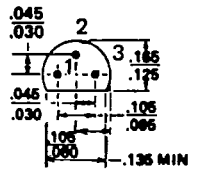
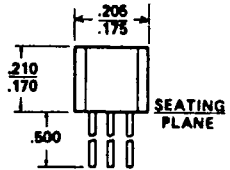
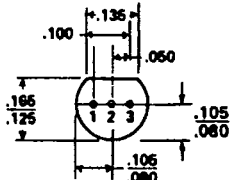
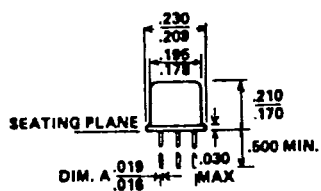
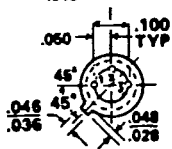
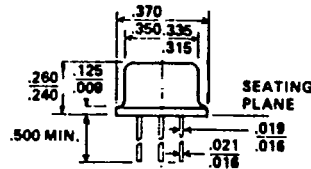
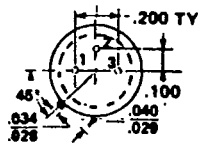
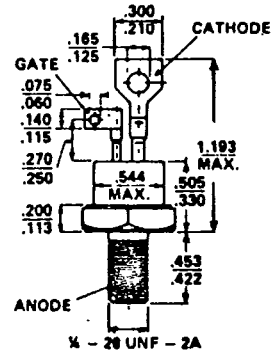
▲ T<sub>C</sub> = 25°C \* With x-67 heat sink # HFE groupings available + Typical value

## Medium Power Transistors

TYPE NO.	POLARITY	CASE	MAXIMUM RATINGS			HFE				V <sub>CE(SAT)</sub>		f <sub>T</sub> min (MHz)	C <sub>ob</sub> max (pF)	COMPLEMENTARY TYPE
			P <sub>d</sub> (mW)	I <sub>C</sub> (A)	V <sub>CEO</sub> (V)	min	max	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	max (V)	I <sub>C</sub> (A)			
2SC 1627	N	TO-92B	600	0.3	80	70	240#	50	2	0.4	0.2	100+	10+	2SA 817
2SC 1788	N	TO-92B	600	0.5	20	65	220#	500	2	0.4	0.5	150+	15	-
2SC 1851	N	TO-92A	625	0.5	25	60	340#	150	10	0.6	0.5	200+	15	2SA 890
2SC 1852	N	TO-92A	625	0.5	50	60	340#	150	10	0.6	0.5	200+	15	2SA 891
2SC 2120	N	TO-92B	600	0.8	25	100	320#	100	1	0.5	0.5	120+	13+	2SA 950
2SD 227	N	TO-92B	250	0.3	15	65	400#	50	1	0.5	0.3	120+	-	2SA 642
2SD 261	N	TO-92B*	500	0.5	20	60	285#	100	1	0.6	0.5	120+	-	2SA 643
2SD 327	N	TO-92B	250	0.5	20	60	285#	100	1	0.6	0.5	120+	-	2SA 723
2SD 545	N	TO-92B	500	1	20	60	560#	50	2	0.3	0.5	180+	15+	2SB 598
2SD 592	N	TO-92B	600	1.5	25	60	-	500	10	-	-	200+	10+	-

\* With x-67 heat sink # HFE groupings available + Typical value

# Packaging Information

<p><b>PACKAGING INFORMATION</b></p>	<p>1. CATHODE 2. GATE 3. ANODE</p>  	<p><b>SCR</b> 1. CATHODE 2. GATE 3. ANODE</p>  
	<p><b>TO-18 (PLASTIC)</b></p>	<p><b>TO-92</b></p>
<p>1. CATHODE 2. GATE 3. ANODE</p>  	<p><b>SCR</b> 1. CATHODE 2. GATE 3. ANODE</p>  	<p><b>TRIAC</b> 1. MT 1 2. GATE 3. MT 2</p> 
<p><b>TO-18</b></p>	<p><b>TO-39</b></p>	<p><b>TO-48D</b></p>