

NPN TO-3

Case 803
Case 804

IC(MAX) = 2-50A
VCE(SUS) = 35-500V
f_r = 0.2-50 MHz

Type No.	PNP Complement	VCE (SUS) (V)	IC (MAX) (A)	hFE @ IC/VCE (min-max @ A/V)	VCE (SAT) @ IC/IB (V @ A/A)	VBE @ IC/VCE (V @ A/V)	VBE (SAT) @ IC/IB (V @ A/A)	ICEV @ VCE (mA @ V)	Pd @ Tc = 25°C (Watts)	Is/b @ VCE t = 1 sec (A @ V)	fr (MHz)	ton @ IC/IB (μs @ A/A)	toff @ IC/IB (μs @ A/A)
2N1487		40	6	15-45@1.5/4	3@1.5/3	3.5@1.5/4		0.25 ^b @30	75	3.75 ⁱ @20	1.0	3 ^l @1/1	6 ^l @1/1
2N1488		55	6	15-45@1.5/4	3@1.5/3	3.5@1.5/4		0.25 ^g @30	75	3.75 ⁱ @20	1.0	3 ^l @1/1	6 ^l @1/1
2N1489		40	6	25-75@1.5/4	1@1.5/1	2.5@1.5/4		0.25 ^g @30	75	3.75 ⁱ @20	1.0	3 ^l @1/1	6 ^l @1/1
2N1490		55	6	25-75@1.5/4	1@1.5/1	2.5@1.5/4		0.25 ^g @30	75	3.75 ⁱ @20	1.0	3 ^l @1/1	6 ^l @1/1
2N1702		40	5	15-60@8/4	3.2@8/0.8	4.1@8/4		20 ^h @30	75	3.75 ⁱ @20	1.0	3 ^l @1/1	6 ^l @1/1
2N3442		140	10	20-70@3/4	1@3/3	5.7@10/4		5@140	117	1.5@78	.08	4 ^l @1/1	6 ^l @1/1
2N3445		60	7.5	20-60@3/5	1.5@3/3	1.5@3/5		1@60	115	7.5@15.3	10	35@5/5	2.4@5/5
2N3446		80	7.5	20-60@3/5	1.5@3/3	1.5@3/5		1@80	115	7.5@15.3	10	35@5/5	2.4@5/5
2N3447		60	7.5	40-120@5/5	1.5@5/5	1.4@5/5		1@60	115	7.5@15.3	10	35@5/5	2.4@5/5
2N3448		80	7.5	40-120@5/5	1.5@5/5	1.4@5/5		1@80	115	7.5@15.3	10	35@5/5	2.4@5/5
2N3713	2N3789	60	10	25-90@1/2	1@5/5	1.5@3/2		1@80	150	5@30	2.5	45@5/5	7@5/5
2N3714	2N3790	80	10	25-90@1/2	1@5/5	1.5@3/2		1@100	150	5@30	2.5	45@5/5	7@5/5
2N3715	2N3791	60	10	50-150@1/2	.8@5/5	1.5@3/2		1@80	150	5@30	2.5	45@5/5	7@5/5
2N3716	2N3792	80	10	50-150@1/2	.8@5/5	1.5@3/2		1@100	150	5@30	2.5	45@5/5	7@5/5
2N3771		40	30	15-80@15/4	2@15/1.5	2.7@15/4		2@50	150	3.75@40	0.2	5 ^l @1/1	10 ^l @1/1
2N3772		60	20	15-80@10/4	1.4@10/1	2.2@10/4		5@100	150	2.5@60	0.2	5 ^l @1/1	10 ^l @1/1
2N3773		140	16	15-60@8/4	1.4@8/8	2.2@8/4		2@140	150	1.5@100	0.2	6 ^l @1/1	10 ^l @1/1
2N3788		325	2	20-80@5/5	1@1.5/3		1.2@1.5/3	5@400	100	2 ^l @50	5	5 ^l @1/1	1.8 ^l @1/1
2N3902		325	2.5	30-90@1/5	8@1/1		1.5@1/1	2.5@700	100	1.43@70	2.8	5 ^l @1/1	1.8 ^l @1/1
2N4070		100	10	40-120@5/5	6@5/5	1.2@5/5		.01@120	115	7.5 ⁱ @15.3	20	5@5/5	1.65@5/5
2N4071		150	10	40-120@5/5	6@5/5	1.2@5/5		.01@200	115	7.5 ⁱ @15.3	20	5@5/5	1.65@5/5
2N4347		120	5	15-60@2/4	1@2/2	2@2/4		2@125	100	1.5@67	0.2	4 ^l @1/1	6 ^l @1/1
2N4348		120	10	15-80@5/4	1@5/5	2@5/4		2@120	120	1.5@80	0.2	6 ^l @1/1	10 ^l @1/1
2N4913	2N4904	40	5	25-100@2.5/2	1.5@5/1	1.5@2.5/2		1@40	87.5	5@17.5	4	45 ^l @5/5	7@5/5
2N4914	2N4905	60	5	25-100@5/2	1.5@5/1	1.5@2.5/2		1@60	87.5	5@17.5	4	45 ^l @5/5	7@5/5
2N4915	2N4906	80	5	25-100@2.5/2	1.5@5/1	1.5@2.5/2		1@80	87.5	5@17.5	4	45 ^l @5/5	7@5/5
2N5038		90	20	20-100@12/5	1@12/1.2	1.8@12/5		10@100	140	5@28	40 ^l	5@12/1.2	2@12/1.2
2N5039		75	20	20-100@10/5	1@10/1	1.8@10/5		10@85	140	5@28	40 ^l	5@12/1	2@12/1
2N5067	2N4901	40	5	20-80@1/2	4@1/1	1.2@1/2		1@40	87.5	5@17.5	4	7 ^l @1.5/1.5	1.8 ^l @1.5/1.5
2N5068	2N4902	60	5	20-80@1/2	4@1/1	1.2@1/2		1@60	87.5	5@17.5	4	7 ^l @1.5/1.5	1.8 ^l @1.5/1.5
2N5069	2N4903	80	5	20-80@1/2	4@1/1	1.2@1/2		1@80	87.5	5@17.5	4	7 ^l @1.5/1.5	1.8 ^l @1.5/1.5
2N5157		500 ^h	3.5	30-90@1/5	8@1/1		1.5@1/1	5@700	100	1.43@70	2.8	8@1/1	1.8 ^l @1/1
2N5239		250 ^h	5	20-80@2/10	2.5@2/25	3@2/10		4@300	100	.67@150	5	5 ^l @1/1	1.8 ^l @1/1
2N5240		350 ^h	5	20-80@2/10	2.5@2/25	3@2/10		2@375	100	.67@150	5	5 ^l @1/1	1.8 ^l @1/1
2N5241		325	5	15-35@2.5/5	7@2.5/5		1.5@2.5/5	5@400	125	2.1@60	2.5	6 ^l @3/6	2 ^l @3/6
2N5301	2N4398	40	30	15-60@15/2	2@20/2	1.7@15/2		1@40	200	6.7@30	2	1@0/1	3@10/1
2N5302	2N4399	60	30	15-60@15/2	2@20/2	1.7@15/2		1@60	200	6@33	2	1@0/1	3@10/1
2N5303	2N5745	80	20	15-60@10/4	2@20/4	1.5@10/2		1@80	200	6@33	2	1@0/1	3@10/1
2N5466		400	3	15-60@3/5	.5@3/6		1.5@3/6	25@500	140	1.75@80	2.5	6 ^l @3/6	2 ^l @3/6
2N5467		400	3	15-60@3/5	.5@3/6		1.5@3/6	25@700	140	1.75@80	2.5	6 ^l @3/6	2 ^l @3/6
2N5575		50	80	10-40@60/4	2@60/6	3@60/6		10@60	300	12@25	0.4	15@60/6	15@60/6
2N5578		70	60	10-40@40/3	1.5@40/4	2.5@40/4		10@80	300	12@25	0.4	10@40/4	10@40/4
2N5671		90	30	20-100@15/2	.75@15/1.2		1.5@15/1.2	12@110	140	7@20	50	5@15/1.2	2@15/1.2
2N5672		120	30	20-100@15/2	.75@15/1.2		1.5@15/1.2	10@135	140	7@20	50	5@15/1.2	2@15/1.2
2N5685 ^d	2N5683	60	50	15-60@25/2	1@25/2.5	2@25/2		2@60	300	10@30	2	7 ^l @25/2.5	1.8 ^l @25/2.5
2N5686 ^d	2N5684	80	50	15-60@25/2	1@25/2.5	2@25/2		2@80	300	10@30	2	7 ^l @25/2.5	1.8 ^l @25/2.5
2N5732		80	20	30-300@5/2	1.2@10/1		1.5@10/1	1 ^g @100	87.5	7@20	30	3@5/5	3.6@5/5
2N5734		80	30	30-300@10/2	1.2@20/2		1.5@20/2	1 ^g @100	175	7@20	30	7@10/1	4@10/1
2N5804		225	5	10-100@5/4	2@5/5		2@5/5	5@225	110	2.2@50	15	5@5/5	5.5@5/5
2N5805		300	5	10-100@5/4	2@5/5		2@5/5	1@300	110	2.2@50	15	5@5/5	5.5@5/5
2N5838		275 ^h	3	8-40@3/2	1@3/3.75		2@3/3.75	5@265	100	2.5@40	5	1.5@3/3.75	4.5@3/3.75
2N5839		300 ^h	3	10-50@2/3	1.5@2/2		2@2/2	2@290	100	2.5@40	5	1.5@2/2	5.25@2/2
2N5840		375 ^h	3	10-50@2/3	1.5@2/2		2@2/2	2@360	100	2.5@40	5	1.7@2/2	4.5@2/2
2N5869	2N5867	60	5	20-100@1.5/4	1@2/2	1.6@2/2		1@60	87.5	3.5@25	4	7@1.5/5	1.8@1.5/5
2N5870	2N5868	80	5	20-100@1.5/4	1@2/2	1.6@2/2		1@80	87.5	3.5@25	4	7@1.5/5	1.8@1.5/5
2N5873	2N5871	60	7	20-100@2.5/4	1@4/4	1.6@4/4		25@60	100	3.3@30	4	7@2.5/2.5	1.8@2.5/2.5
2N5874	2N5872	80	7	20-100@2.5/4	1@4/4	1.6@4/4		25@80	100	3@33	4	7@2.5/2.5	1.8@2.5/2.5
2N5877	2N5875	60	10	20-100@4/4	1@5/5	1.6@5/5		5@60	150	5@30	4	7@4/4	1.8@4/4
2N5878	2N5876	80	10	20-100@4/4	1@5/5	1.6@5/5		5@80	150	4.5@33	4	7@4/4	1.8@4/4
2N5881	2N5879	60	15	20-100@6/4	1@7/7	1.6@5/5		5@60	160	5.33@30	4	7@6/6	1.8@6/6
2N5882	2N5880	80	15	20-100@6/4	1@7/7	1.6@5/5		5@80	160	4@40	4	7@6/6	1.8@6/6
2N5885	2N5883	60	25	20-100@10/4	1@15/1.5	1.8@15/1.5		1@60	200	6@33	4	7@10/1	1.8@10/1
2N5886	2N5884	80	25	20-100@10/4	1@15/1.5	1.8@15/1.5		1@80	200	5@40	4	7@10/1	1.8@10/1
2N5929 ^d		80	30	20-100@10/4	2@10/66		2@10/66	5@90	175	7.6@23	30	5@10/66	8@10/66
2N5930 ^d		120	30	20-100@10/4	2@10/66		2@10/66	5@130	175	7.6@23	30	5@10/66	8@10/66
2N5931 ^d		160	30	20-100@10/4	2@10/66		2@10/66	5@170	175	7.6@23	30	5@10/66	8@10/66
2N5932 ^d		60	30	20-100@20/4	2@20/1.33		2@20/1.33	5@70	175	7.6@23	30	6@20/1.33	9@20/1.33

NOTES: b) IC80 @ VCB (mA @ V) d) Case 804 g) ICES @ VCE (mA @ V) h) VCEr (V) i) (typical)



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$I_{C(MAX)} = 2-50A$
 $V_{CEO(SUS)} = 35-500V$
 $f_T = 0.2-50\text{ MHz}$

NPN TO-3

Case 803

Case 804

Type No.	PNP Complement	V _{CE0} (SUS) (V)	I _C (MAX) (A)	h _{FE} @ I _C /V _{CE} (min-max @ A/V)	V _{CE} (SAT) @ I _C /I _B (V @ A/A)	V _{BE} @ I _C /V _{CE} (V @ A/V)	V _{BE} (SAT) @ I _C /I _B (V @ A/A)	I _{CEV} @ V _{CE} (mA @ V)	P _D @ T _C = 25 °C (Watts)	I _s /b @ V _{CE} t = 1 sec (A @ V)	f _T (MHz)	t _{IN} @ I _C /I _B (μs @ A/A)	t _{OFF} @ I _C /I _B (μs @ A/A)
2N5933 ^d		100	30	20-100@20/4	2@20/1.33		2@20/1.33	5@110	175	7.6@23	30	6.7@20/1.33	.9@20/1.33
2N5934 ^d		140	30	20-100@20/4	2@20/1.33		2@20/1.33	5@150	175	7.6@23	30	6.7@20/1.33	.9@30/1.33
2N5935 ^d		80	30	20-100@30/4	2@30/2		2.4@30/2	5@90	175	7.6@23	30	7.7@30/2	1@30/2
2N5936 ^d		120	30	20-100@300/4	2@30/2		2.4@30/2	5@130	175	7.6@23	30	7.7@30/2	1@30/2
2N5937 ^d		160	30	20-100@300/4	2@30/2		2.4@30/2	5@170	175	7.6@23	30	7.7@30/2	1@30/2
2N6032 ^d		90	50	10-50@50/2 6	1.3@50/5		12@110	1@110	140	5.8@24	30 [†]	1@50/5	2@50/5
2N6033 ^d		120	40	10-50@40/2	1@40/4		2@40/4	10@135	140	5.8@24	30 [†]	1@40/4	2@40/4
2N6249		225 ^h	10	10-50@10/3	1.5@10/1		2.25@10/1	5@225	175	5.8@30	2.5	2@10/1	4.5@10/1
2N6250		300 ^h	10	8-50@10/3	1.5@10/1.25		2.25@10/1.25	5@300	175	5.8@30	2.5	2@10/1.25	4.5@10/1.25
2N6251		375 ^h	10	6-50@10/3	1.5@10/1.67		2.25@10/1.67	5@375	175	5.8@30	2.5	2@10/1.67	4.5@10/1.67
2N6257		40	20	15-75@8/4	1.5@8/8	2.2@8/4		4@45	150	3.75@40	0.2	5 [†] @1/1	10 [†] @1/1
2N6258		80	30	20-80@15/2	.75@15/1.5	2@20/2		1@100	250	3.1@80	0.2	5 [†] @1/1	10 [†] @1/1
2N6259		150	16	15-60@8/2	1@8/8	2@8/2		.2@150	250	2.5@100	0.2	6 [†] @1/1	10 [†] @1/1
2N6262		150	10	20-70@3/2	.5@3/3	1@3/2		.1@150	150	1.5@100	0.08	4 [†] @1/1	6 [†] @1/1
2N6274 ^d		100	50	30-120@20/4	1.2@20/2		1.8@20/2	.01@120	250	30@8.3	30	3 [†] @20/2	1.05@20/2
2N6275 ^d		120	50	30-120@20/4	1.2@20/2		1.8@20/2	.01@140	250	30@8.3	30	3 [†] @20/2	1.05@20/2
2N6276 ^d		140	50	30-120@20/4	1.2@20/2		1.8@20/2	.01@160	250	30@8.3	30	3 [†] @20/2	1.05@20/2
2N6277 ^d		150	50	30-120@20/4	1.2@20/2		1.8@20/2	.01@180	250	30@8.3	30	3 [†] @20/2	1.05@20/2
2N6306		250	8	15-75@3/5	.8@3/6		2.3@8/2	.5@500	125	3.8@33	5	6.7@3/6	2@3/1.5
2N6307		300	8	15-75@3/5	1@3/6		2.3@8/2	.5@600	125	3.8@33	5	6.7@3/6	2@3/1.5
2N6308		350	8	12-60@3/5	1.5@3/6		2.5@8/2.67	.5@700	125	3.8@33	5	6.7@3/6	2.2@3/1.5
2N6322		200	30	40-150@5/5	1.5@20/2	2.5@30/5		2@300	350	4.5@45	10	6 [†] @20/2	3 [†] @20/2
2N6323		300	30	30-150@5/5	1.5@20/2	2.5@30/5		2@400	350	4.5@45	10	6 [†] @20/2	3 [†] @20/2
2N6326	2N6329	60	30	6-30@30/4	1.5@15/2	2@15/4		.5@60	200	10@20	3	3 [†] @10/1	1 [†] @10/1
2N6327	2N6330	80	30	6-30@30/4	1.5@15/4	2@15/4		.5@80	200	10@20	3	3 [†] @10/1	1 [†] @10/1
2N6328	2N6331	100	30	6-30@30/4	1.5@15/2	2@15/4		.5@100	200	10@20	3	3 [†] @10/1	1 [†] @10/1
2N6338		100	25	30-120@10/2	1@10/1		1.8@10/1	.01 ^b @120	200	15@13.3	40	3.7@10/1	1.25@10/1
2N6333		120	25	30-120@10/2	1@10/1		1.8@10/1	.01 ^b @140	200	15@13.3	40	3.7@10/1	1.25@10/1
2N6340		140	25	30-120@10/1	1@10/1		1.8@10/1	.01 ^b @160	200	15@13.3	40	3.7@10/1	1.25@10/1
2N6341		150	25	30-120@10/1	1@10/1		1.8@10/1	.01 ^b @180	200	15@13.3	40	3.7@10/1	1.25@10/1
2N6354		120	10	10-100@10/2	1@10/1		2@10/1	10@140	140	5.5@25	40 [†]	1@10/1	.8@10/1
2N6510		200	7	10-50@3/3	1.5@3/6	1.7@3/6		5@250	120	3.16@38	3	1.1@3/8	2@3/6
2N6511		250	7	10-50@4/3	1.5@4/8	1.7@4/8		5@300	120	3.16@38	3	1.1@4/8	2@4/8
2N6512		300	7	10-50@4/3	1.5@4/8	1.7@4/8		5@350	120	3.16@38	3	1.1@4/8	2@4/8
2N6513		350	7	10-50@4/3	1.5@4/8	1.7@4/8		5@400	120	3.16@38	3	1.1@4/8	2@4/8
2N6514		300	7	10-50@5/3	1.5@5/1	1.7@5/1		5@350	120	3.16@38	3	1.1@5/1	2@5/1
2N6542		300	5	12-60@1.5/2	1@3/6	1.4@3/6		.5@300	100	2@100	6	.7 [†] @3/6	4.8@3/6
2N6543		400	5	12-60@1.5/2	1@3/6	1.4@3/6		.5@400	100	2@100	6	.7 [†] @3/6	4.8@3/6
2N6544		300	8	12-60@2.5/3	1.5@5/1	1.6@5/1		.5@300	125	2@100	6	.7 [†] @5/1	5@5/9
2N6545		400	8	12-60@2.5/3	1.5@5/1	1.6@5/1		.5@400	125	2@100	6	.7 [†] @5/1	5@5/9
2N6546		300	15	12-60@5/2	1.5@10/2	1.6@10/2		1@300	175	2@100	6	.7 [†] @10/2	4.8@10.2
2N6547		400	15	12-60@5/2	1.5@10/2	1.6@10/2		1@400	175	2@100	6	.7 [†] @10/2	4.8@10/2
2N6560		450	10	10-40@5/2	.75@5/1		1.4@5/1	1@450	125	2.8@45	10	6.7@5/1	3@5/1
2N6561		300	10	10-50@10/2	.75@10/2		1.8@10/2	1@300	100	2@50	15	6.7@5/1	1.7@5/1
2N6573		250	10	15-60@3/3	1.2@3/3	1.6@7/1.4		.5@500	125	2@200	5	1@7/1.4	3.2@7/1.4
2N6574		275	10	20-60@3/3	1@3/3	1.4@7/1.4		.5@600	125	2@200	5	1@7/1.4	3.2@7/1.4
2N6575		300	10	20-60@3/3	1@3/3	1.4@7/1.4		.5@700	125	2@200	5	1@7/1.4	3.2@7/1.4
2N6579		350	10	7-35@5/3	3@10/5		1.5@5/1	.5@450	125	5.8@30	12.5	5 [†] @5/1	2.5@5/1
2N6580		400	10	7-35@5/3	3@10/5		1.5@5/1	.5@500	125	5.8@30	12.5	5 [†] @5/1	2.5@5/1
2N6581		450	10	7-35@5/3	3@10/5		1.5@5/1	.5@550	125	5.8@30	12.5	5 [†] @5/1	2.5@5/1
2N6582		350	10	7-35@7/3	3@10/5		1.5@7/1.4	.5@450	125	5.8@30	12.5	5 [†] @7/1.4	2.5@7/1.4
2N6583		400	10	7-35@7/3	3@10/5		1.5@7/1.4	.5@500	125	5.8@30	12.5	5 [†] @7/1.4	2.5@7/1.4
2N6584		450	10	7-35@7/3	3@10/5		1.5@7/1.4	.5@550	125	5.8@30	12.5	5 [†] @7/1.4	2.5@7/1.4
2N6653		300	20	>10@15/5	1@15/3		1.5@15/3	.1@400	175	5.9@30	15	.4 [†] @15/3	2.4@15/3
2N6654		350	20	>10@15/5	1@15/3		1.5@15/3	.1@450	175	5.9@30	15	.4 [†] @15/3	2.4@15/3
2N6655		400	20	>10@15/5	1@15/3		1.5@15/3	.1@500	175	5.9@30	15	.4 [†] @15/3	2.4@15/3
2N6671		300	8	10-40@5/3	2@8/4		1.6@5/1	.1@450	150	6@25	15	.6 [†] @5/1	2.9@5/1
2N6672		350	8	10-40@5/3	2@8/4		1.6@5/1	.1@550	150	6@25	15	.6 [†] @5/1	2.9@5/1
2N6673		400	8	10-40@5/3	2@8/4		1.6@5/1	.1@650	150	6@25	15	.6 [†] @5/1	2.9@5/1
2N6674		300	15	8-20@10/2	5@15/5		1.5@10/2	.1@450	175	5.9@30	15	.7 [†] @10/2	3@10/2
2N6675		400	15	8-20@10/2	5@15/5		1.5@10/2	.1@650	175	5.9@30	15	.7 [†] @10/2	3@10/2
2N6676		300	15	>8@15/3	1.5@15/3		1.5@15/3	.1@450	175	5.9@30	15	.7 [†] @15/3	3@15/3
2N6677		350	15	>8@15/3	1.5@15/3		1.5@15/3	.1@550	175	5.9@30	15	.7 [†] @15/3	3@15/3
2N6678		400	15	>8@15/3	1.5@15/3		1.5@15/3	.1@650	175	5.9@30	15	.7 [†] @15/3	3@15/3
2N6686		160	25	25-100@10/2	1.5@25/2.5		1.8@25/2.5	.05@260	200	11.1@18	20	.4 [†] @25/2.5	1.25@25/2.5
2N6687		180	25	25-100@10/2	1.5@25/2.5		1.8@25/2.5	.05@280	200	11.1@18	20	.4 [†] @25/2.5	1.25@25/2.5
2N6688		200	20	20-80@10/2	1.5@20/2		1.8@20/2	.05@300	200	11.1@18	20	.4 [†] @20/2	1.25@20/2

NOTES: b) I_{CB0} @ V_{CB} (mA @ V) d) Case 804 g) I_{CE0} @ V_{CE} (mA @ V) h) V_{CE0} (V) i) (typical)

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