NPN Transistors

SATURATED SWITCHES

Type No.	Case Style	V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CBO} (nA) @ V_{CB} (V) Max		h_{FE} Min	h_{FE} Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(sat)}$ (V) Max	& $V_{BE(sat)}$ (V) Min	$V_{BE(sat)}$ (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Condition	Process No.
2N706	TO-18	25	15	3	500	15	20		10	1	0.6		0.9	10	6	200		10	75		9	21
JAN2N706	TO-18	25	15	5	100	15	30	120	10	1	0.5	0.7	0.9	10	6	200	700	10	75		9	21
							20		1	1												
							10		.1	1												
2N708	TO-52	40	15	5	25	20	30	120	10	1	0.4	0.72	0.8	10	6	300		10				22
2N744	TO-18	20	12	5	1.0 μA	20	20		1.0	0.25		0.65	0.85	10	5	282		10	24			21
							40	120	10	0.35			1.5	100								
							20		100	1												
2N753	TO-18	25	15	5			40	120	10	1	0.6		0.9	10	5	200		10				21
2N834	TO-18	40		5	500	20	25		10	1	0.25		0.9	10	4	350		10	75			21
2N2369	TO-18	40	15	4.5	400	20	40	120	10	1	0.25	0.7	0.85	10	4	500		10	18		1	21
							20		100	2												
2N2369A	TO-18	40	15	4.5	400	20	40	120	10	0.35	0.2	0.7	0.85	10	4	500		10	18		1	21
							20		100	1	0.5		1.6	100								
JAN2N2369A	TO-18	40	15	4.5	30	20	40	120	10	0.35	0.2	0.7	0.85	10	4	500		10	18		1	21
							30	120	30	0.4	0.25		1.15	30								
							40	120	10	1	0.5		1.6	100								
							20	120	100	1												
JANTX2N2369A	TO-18	40	15	4.5	400	20	40	120	10	0.35	0.30	0.7	0.85	10	4	500		10	18		1	21
							40	120	10	1	0.25		1.15	30								
							30	120	30	0.4	0.50		1.6	100								
							20	120	100	1												
JANTXV2N2369A	TO-18	40	15	4.5	400	20	40	120	10	0.35	0.30	0.7	0.85	10	4	500		10	18		1	21
							40	120	10	1	0.25		1.15	30								
							30	120	30	0.4	0.50		1.6	100								
							20	120	100	1												
2N3009	TO-52	40	15	4	500	20	30	120	30	0.4	0.18	0.75	0.95	30	5	350		30	25		5	22
					I_{CES}		25		100	0.5	0.28		1.2	100								
							15		300	1	0.5		1.7	300								
2N3011	TO-18	30	12	5			30	120	10	0.35	0.2	0.72	0.87	10	4	400		20	20		5	21
							12		100	1	0.5		1.6	100								
2N3013	TO-52	40	15	4	300	20	30	120	30	0.4	0.18	0.75	0.95	30	5	350		30	25		5	22
					I_{CES}		25		100	0.5	0.28		1.2	100								
							15		300	1	0.5		1.7	300								

Test Conditions:

1. I_C = 10 mA, I_{B1} = 3 mA, I_{B2} = 1.5 mA
2. I_C = 300 mA, V_{CE} = 25V, I_{B1} = I_{B2} = 30 mA
3. I_C = 500 mA, V_{CE} = 25V, I_{B1} = I_{B2} = 50 mA
4. I_C = 500 mA, V_{CC} = 30V, I_{B1} = I_{B2} = 50 mA
5. V_{CC} = 10V, I_C = 300 mA, I_{B1} = I_{B2} = 30 mA
6. I_C = 1A, V_{CC} = 30V, I_{B1} = I_{B2} = 100 mA
7. V_{CC} = 3V, I_C = 10 mA, I_{B1} = I_{B2} = 3.3 mA
8. I_C = 10 mA, V_{CC} = 3V, I_{B1} = 3 mA, I_{B2} = 1.5 mA
9. V_{CC} = 3V, I_C = 10 mA, I_{B1} = 3 mA, I_{B2} = 1 mA
10. V_{CC} = 2V, I_C = 30 mA, I_{B1} = 3 mA, I_{B2} = 3 mA
11. V_{CC} = 30V, I_C = 300 mA, I_{B1} = I_{B2} = 30 mA
12. V_{CC} = 30V, I_C = 1A, I_{B1} = I_{B2} = 100 mA

($t = t_s + t_f$)