

NPN Silicon Transistors

NPN Silicon Planar Transistors for high speed switching and high frequency use

Type	Case	Maximum ratings						Characteristics at $T_{amb} = 25^{\circ}\text{C}$				
		BV_{CEO} V	BV_{CBO} V	BV_{EBO} V	BV_{CER} ¹ V	I_{CM} mA	P_{TOT} ² mW	T_{JM} $^{\circ}\text{C}$	$\text{h}_{FE}(1\text{V}/10\text{mA})$	$\text{h}_{FE}(\text{V}_{CE}/I_C)$ (V/ma)	max $\text{V}_{CE\text{sat}}$ mV (10mA/1mA)	
BSX 19	TO18	15	40	4.5	20	500	360	200	20 ... 60	> 10(2/100)	250	
BSX 20	TO18	15	40	4.5	20	500	360	200	40 ... 120	> 20(2/100)	250	
BSY 27	TO18	15	20	6	—	200	300	175	—	25 ... 120(2/50)	350	
BSY 95A	TO18	15	20	5	—	200	300	175	—	50 ... 200(0.35/10)	—	
NKT 13329	TO18	15	30	5	—	500	360	200	—	40 ... 120(10/10)	—	
NKT 13429	TO18	15	30	5	—	500	360	200	—	80 ... 320(10/10)	—	
NKT 16229	TO72	15	30	3	—	50	200	200	—	> 30(10/10)	400	
PN 918	Plastic TO18	15	30	3	—	50	200	125	—	20 ... 200(1/3)	400	
PN 2368	Plastic TO18	15	40	4.5	—	500	200	125	20 ... 60	> 10(2/100)	250	
PN 2369	Plastic TO18	15	40	4.5	—	500	200	125	40 ... 120	> 20(2/100)	250	
2N 706	TO18	—	25	3	20	—	300	175	> 20	—	600	
2N 706A	TO18	15	25	5	20	—	300	175	20 ... 60	—	600	
2N 708	TO18	15	40	5	20	—	360	200	30 ... 120	> 15(1/0.5)	400	
2N 914	TO18	15	40	5	20	500	360	200	30 ... 120	> 10(5/500)	—	
2N 918	TO72	15	30	3	—	50	200	200	—	20 ... 200(1/3)	400	
2N 2368	TO18	15	40	4.5	—	500	360	200	20 ... 60	> 10(2/100)	250	
2N 2369	TO18	15	40	4.5	—	500	360	200	40 ... 120	> 20(2/100)	250	
2N 2369A	TO18	15	40	4.5	—	500	360	200	—	40 ... 120(0.35/10)	200	

1 $R = 10 \text{ ohm}$

2 $T_{amb} = 25^{\circ}\text{C}$ (Derate linearly to 200°C — except 2N 706/A (175°C) and PN series (125°C))

Type	Characteristics at $T_{amb} = 25^{\circ}\text{C}$							
	max $\text{V}_{BE\text{sat}}$ mV (10mA/1mA)	max $I_{CBO}(\text{V}_{CB})$ nA (V)	min $f_T(\text{V}_{CE}/I_C)$ MHz (V/mA)	Cob (V_{CB}) pF (V)	t_{ON} ns	t_{OFF} ns	t_S ns	at (I_C) (mA)
BSX 19	850	400 (20)	400 (10/10)	< 4 (5)	< 12	< 15	< 10	(10)
BSX 20	850	400 (20)	500 (10/10)	< 4 (5)	< 12	< 18	< 13	(10)
BSY 27	900	25 (9)	200 (9/10)	< 6 (6)	< 27	< 130	< 50	(10)
BSY 95A	—	50 (16)	200 (9/10)	< 6 (9)	—	—	< 50	(10)
NKT 13329	—	20 (10)	300 (10/20)	5 (10)	—	55	20	(20)
NKT 13429	—	20 (10)	300 (10/20)	5 (10)	—	55	20	(20)
NKT 16229	1000	10 (10)	600 (10/4)	< 1.8 (10)	—	—	—	—
PN 918	1000	10 (15)	600 (10/4)	< 1.7 (10)	—	—	—	—
PN 2368	850	400 (20)	400 (10/10)	< 4 (5)	< 12	< 15	< 10	(10)
PN 2369	850	400 (20)	500 (10/10)	< 4 (5)	< 12	< 18	< 13	(10)
2N 706	900	500 (15)	200 (15/10)	< 6 (10)	< 40	< 75	—	(10)
2N 706A	900	500 (15)	200 (10/10)	< 5 (5)	< 40	< 75	—	(10)
2N 708	800	25 (20)	300 (10/10)	< 6 (10)	—	—	< 25	(10)
2N 914	800	25 (20)	300 (10/20)	< 6 (10)	< 40	< 40	—	(200)
2N 918	1000	10 (15)	600 (10/4)	< 1.7 (10)	—	—	—	—
2N 2368	850	400 (20)	400 (10/10)	< 4 (5)	< 12	< 15	< 10	(10)
2N 2369	850	400 (20)	500 (10/10)	< 4 (5)	< 12	< 18	< 13	(10)
2N 2369A	850	—	500 (10/10)	< 4 (5)	< 12	< 18	< 13	(10)