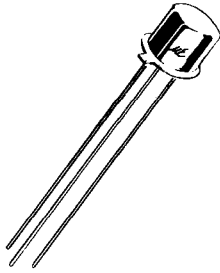
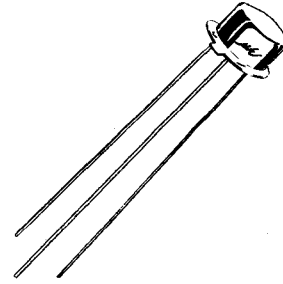


# High Speed Switching Transistors

TO-18



TO-5



TYPE NO. NPN PNP	Maximum Ratings					Electrical Characteristics @ T <sub>A</sub> = 25°C						CASE
	P <sub>D</sub> @ T <sub>A</sub> = 25°C	I <sub>C</sub>	BV <sub>CB0</sub>	BV <sub>CEO</sub>	BV <sub>EBO</sub>	h <sub>FE</sub> @ V <sub>CE</sub> @ I <sub>C</sub>	V <sub>CE(sat)</sub> @ I <sub>C</sub> /I <sub>B</sub>	t <sub>on</sub> t <sub>off</sub>	C <sub>ob</sub>	f <sub>T</sub> @ I <sub>C</sub>		
						min./max.	max.	max.	max.	min.		
BSX 19	360mW	500mA	40V	15V	4.5V	20/ 60 @ 1.00V @ 10mA	0.30V @ 10/ 0.6mA	12ns 15ns	4.0pF	500MHz @ 10mA	TO-18	
BSX 20	360mW	500mA	40V	15V	4.5V	40/120 @ 1.00V @ 10mA	0.30V @ 10/ 0.3mA	12ns 18ns	4.0pF	600MHz @ 10mA	TO-18	
BSX 21	300mW	50mA	120V	80V	5.0V	20/120 @ 3.00V @ 4mA	1.80V @ 10/ 0.1mA	40ns 40ns	6.0pF	60MHz @ 4mA	TO-18	
BSX 27	300mW	100mA	15V	6V	4.0V	25/125 @ 0.40V @ 10mA	0.38V @ 30/ 3.0mA	30ns 12ns	3.0pF	600MHz @ 10mA	TO-18	
BSX 28	300mW	100mA	30V	12V	4.5V	30/120 @ 0.35V @ 10mA	0.25V @ 30/ 3.0mA	- -	4.0pF	400MHz @ 20mA	TO-18	
BSX 38	300mW	100mA	35V	30V	5.0V	100/750 @ 1.00V @ 10mA	0.20V @ 10/ 0.3mA	- -	5.0pF	200MHz @ 10mA	TO-18	
BSX 38A	300mW	100mA	35V	30V	5.0V	100/300 @ 1.00V @ 10mA	0.20V @ 10/ 0.3mA	- -	5.0pF	200MHz @ 10mA	TO-18	
BSX 38B	300mW	100mA	35V	30V	5.0V	250/750 @ 1.00V @ 10mA	0.20V @ 10/ 0.3mA	- -	5.0pF	200MHz @ 10mA	TO-18	
BSY 26	360mW	100mA	20V	15V	5.0V	20/ 60 @ 2.00V @ 10mA	0.35V @ 10/ 1.0mA	27ns 130ns	6.0pF	200MHz @ 10mA	TO-18	
BSY 27	360mW	100mA	20V	15V	5.0V	40/120 @ 2.00V @ 10mA	0.35V @ 10/ 1.0mA	27ns 130ns	6.0pF	200MHz @ 10mA	TO-18	
BSY 38	300mW	100mA	20V	15V	5.0V	30/ 60 @ 0.35V @ 10mA	0.25V @ 10/ 1.0mA	14ns 45ns	5.0pF	200MHz @ 10mA	TO-18	
BSY 39	300mW	300mA	20V	15V	5.0V	40/120 @ 0.35V @ 10mA	0.25V @ 10/ 1.0mA	14ns 45ns	5.0pF	200MHz @ 10mA	TO-18	
BSY 95	300mW	200mA	20V	15V	5.0V	50/200 @ 0.35V @ 10mA	0.35V @ 10/ 0.2mA	- -	8.0pF	200MHz @ 10mA	TO-18	
BSY 95A	300mW	200mA	20V	15V	5.0V	50/200 @ 0.35V @ 10mA	0.35V @ 10/ 0.2mA	- -	6.0pF	200MHz @ 10mA	TO-18	
ME 0491	250mW	100mA	30V	20V	5.0V	30/120 @ 1.00V @ 30mA	0.15V @ 10/ 1.0mA	25ns 35ns	4.0pF	500MHz @ 10mA	TO-106	
ME 0492	250mW	100mA	25V	16V	5.0V	50/150 @ 1.00V @ 30mA	0.15V @ 10/ 1.0mA	25ns 35ns	4.0pF	500MHz @ 10mA	TO-106	
ME 0493	250mW	100mA	15V	12V	5.0V	30/150 @ 1.00V @ 30mA	0.25V @ 10/ 1.0mA	60ns 90ns	6.0pF	500MHz @ 10mA	TO-106	
MA 0491	360mW	100mA	30V	20V	5.0V	30/120 @ 1.00V @ 30mA	0.15V @ 10/ 1.0mA	25ns 35ns	4.0pF	500MHz @ 10mA	TO-18	
MA 0492	360mW	100mA	25V	16V	5.0V	50/150 @ 1.00V @ 30mA	0.15V @ 10/ 1.0mA	25ns 35ns	4.0pF	500MHz @ 10mA	TO-18	
MA 0493	360mW	100mA	15V	12V	5.0V	30/150 @ 1.00V @ 30mA	0.25V @ 10/ 1.0mA	60ns 90ns	6.0pF	500MHz @ 10mA	TO-18	
2N 3133	600mW	600mA	50V	35V	4.0V	40/120 @ 10.00V @ 150mA	0.60V @ 150/15.0mA	75ns 150ns	10.0pF	200MHz @ 50mA	TO-5	
2N 3134	600mW	600mA	50V	35V	4.0V	100/300 @ 10.00V @ 150mA	0.60V @ 150/15.0mA	75ns 150ns	10.0pF	200MHz @ 50mA	TO-5	
2N 3135	400mW	600mA	50V	35V	4.0V	40/120 @ 10.00V @ 150mA	0.60V @ 150/15.0mA	75ns 150ns	10.0pF	200MHz @ 50mA	TO-18	
2N 3136	400mW	600mA	50V	35V	4.0V	100/300 @ 10.00V @ 150mA	0.60V @ 150/15.0mA	75ns 100ns	10.0pF	200MHz @ 50mA	TO-18	
2N 3248	360mW	200mA	15V	12V	5.0V	50/150 @ 1.00V @ 10mA	0.25V @ 50/15.0mA	20ns 80ns	8.0pF	250MHz @ 20mA	TO-18	
2N 3249	360mW	200mA	15V	12V	5.0V	100/300 @ 1.00V @ 10mA	0.25V @ 50/ 5.0mA	90ns 100ns	8.0pF	300MHz @ 20mA	TO-18	
2N 3250	360mW	200mA	50V	40V	5.0V	50/150 @ 1.00V @ 10mA	0.25V @ 10/ 1.0mA	70ns 225ns	6.0pF	250MHz @ 10mA	TO-18	
2N 3250A	360mW	200mA	60V	60V	5.0V	50/150 @ 1.00V @ 10mA	0.25V @ 10/ 1.0mA	70ns 225ns	6.0pF	250MHz @ 10mA	TO-18	
2N 3251	360mW	200mA	50V	40V	5.0V	100/300 @ 1.00V @ 10mA	0.25V @ 10/ 1.0mA	70ns 250ns	6.0pF	300MHz @ 10mA	TO-18	
2N 3251A	360mW	200mA	60V	60V	5.0V	100/300 @ 1.00V @ 10mA	0.25V @ 10/ 1.0mA	70ns 250ns	6.0pF	300MHz @ 10mA	TO-18	
2N 3545	360mW	200mA	20V	20V	5V	40/120 @ 1.00V @ 10mA	0.20V @ 10/ 1.0mA	50ns 90ns	6.0pF	250MHz @ 10mA	TO-18	
2N 3576	360mW	200mA	20V	15V	5V	40/120 @ 0.50V @ 10mA	0.15V @ 10/ 1.0mA	30ns 50ns	4.5pF	400MHz @ 10mA	TO-18	
2N 3905	310mW	200mA	40V	40V	5.0V	50/150 @ 1.00V @ 10mA	0.25V @ 10/ 1.0mA	70ns 260ns	4.5pF	200MHz @ 10mA	TO-92A	
2N 3906	310mW	200mA	40V	40V	5.0V	100/300 @ 1.00V @ 10mA	0.25V @ 10/ 1.0mA	70ns 300ns	4.5pF	250MHz @ 10mA	TO-92A	
2N 4034	360mW	100mA	40V	40V	5.0V	70/200 @ 1.00V @ 10mA	0.30V @ 50/ 5.0mA	40ns 150ns	3.5pF	400MHz @ 10mA	TO-18	
2N 4035	360mW	100mA	40V	40V	5.0V	150/300 @ 1.00V @ 10mA	0.30V @ 50/ 5.0mA	40ns 150ns	3.5pF	450MHz @ 10mA	TO-18	
2N 4402	310mW	600mA	40V	40V	5.0V	50/150 @ 2.00V @ 150mA	0.40V @ 150/15.0mA	35ns 255ns	8.5pF	150MHz @ 20mA	TO-92A	
2N 4403	310mW	600mA	40V	40V	5.0V	100/300 @ 2.00V @ 150mA	0.40V @ 150/15.0mA	35ns 255ns	8.5pF	200MHz @ 20mA	TO-92A	
2N 4916	200mW	100mA	30V	30V	5.0V	70/200 @ 1.00V @ 10mA	0.14V @ 10/ 1.0mA	40ns 150ns	5.0pF	400MHz @ 10mA	TO-106	
2N 4917	200mW	100mA	30V	30V	5.0V	150/300 @ 1.00V @ 10mA	0.14V @ 10/ 1.0mA	40ns 150ns	5.0pF	450MHz @ 10mA	TO-106	
BSX 29	360mW	200mA	12V	12V	4.0V	30/120 @ 5.00V @ 30mA	0.50V @ 10/ 1.0mA	60ns 90ns	6.0pF	400MHz @ 30mA	TO-18	
BSY 40	300mW	200mA	25V	20V	5.0V	20/ 60 @ 10.00V @ 10mA	0.20V @ 10/ 1.0mA	25ns 100ns	7.0pF	140MHz @ 10mA	TO-18	
BSY 41	300mW	200mA	25V	20V	5.0V	50/200 @ 10.00V @ 10mA	0.20V @ 10/ 1.0mA	25ns 100ns	7.0pF	140MHz @ 10mA	TO-18	