

# TO-92 Plastic Package Transistors (PNP)

Maximum Ratings								Electrical Characteristics (Ta=25°C, Unless Otherwise Specified)																			
Type No.	V <sub>CEO</sub> (V) Min	V <sub>CEO</sub> (V) Min	V <sub>ESD</sub> (V) Min	P <sub>D</sub> (W) @Tc=25°C	I <sub>C</sub> (A)	I <sub>CEO</sub> (μA) Max	V <sub>CB</sub> (V) @ I <sub>C</sub>	I <sub>CES</sub> (μA) Max	V <sub>CE</sub> (V) @ I <sub>CES</sub>	h <sub>FE</sub> @ I <sub>C</sub> & V <sub>CE</sub>	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	V <sub>CE(SAT)</sub> (V) Max	V <sub>BE(SAT)</sub> (V) Min	V <sub>BE(SAT)</sub> (V) Max	I <sub>C</sub> (mA) @ V <sub>BE(SAT)</sub>	C <sub>ob</sub> (pF) Typ	f <sub>t</sub> (MHz) Min	f <sub>t</sub> (MHz) Typ	f <sub>t</sub> (MHz) Max	I <sub>C</sub> (mA)	t <sub>os</sub> (ns) Max	N <sub>F</sub> (dB) Max	Freq (MHz) @ N <sub>F</sub>	C <sub>10</sub> (pF) Max	CDIL Case Style	
2SA719	30	25	5	0.625	0.5	0.1	20			85 340 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA719Q	30	25	5	0.625	0.5	0.1	20			85 170 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA719R	30	25	5	0.625	0.5	0.1	20			120 240 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA719S	30	25	5	0.625	0.5	0.1	20			170 300 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA720	60	50	5	0.625	0.5	0.1	20			85 340 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA720Q	60	50	5	0.625	0.5	0.1	20			85 170 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA720R	60	50	5	0.625	0.5	0.1	20			120 170 150 10 40 500 10			0.6	1.5	300	15		200		50							TO-92-1
2SA720S	60	50	5	0.625	0.5	0.1	20			170 340 150 10 40 500 10			0.6	1.5	500	15		200		50							TO-92-1
2SA733	60	50	5	0.5	0.1	0.1	60			90 600 1 6			0.3		100	6	50		10			20	0.001				TO-92-1
2SA733K	60	50	5	0.5	0.1	0.1	60			300 600 1 6			0.3		100	6	50		10			20	0.001				TO-92-1
2SA733P	60	50	5	0.5	0.1	0.1	60			200 400 1 6			0.3		100	6	50		10			20	0.001				TO-92-1
2SA733Q	60	50	5	0.5	0.1	0.1	60			135 270 1 6			0.3		100	6	50		10			20	0.001				TO-92-1
2SA733R	60	50	5	0.5	0.1	0.1	60			90 180 1 6			0.3		100	6	50		10			20	0.001				TO-92-1
2SA933	50	40	5	0.3	0.1	0.5	30			120 560 1 6 25 150 6			0.5	1.1	50	4	7	140		2		10					TO-92-1
2SA970	120	120	5	0.3	0.1	0.1	120			70 700 2 6			0.3		10	4		100		1		2	0.001				TO-92-1
2SA970BL	120	120	5	0.3	0.1	0.1	120			350 700 2 6			0.3		10	4		100		1		2					TO-92-1
2SA970GR	120	120	5	0.3	0.1	0.1	120			200 400 2 6			0.3		10	4		100		1		2					TO-92-1
2SA984D	100	80	5	0.6	0.5	1	40			60 120 50 5 35 400 5			0.6	1.2	400	9		120		10							TO-92-1
2SA984E	100	80	5	0.6	0.5	1	40			100 200 50 5 35 400 5			0.6	1.2	400	9		120		10							TO-92-1
2SA984F	100	80	5	0.6	0.5	1	40			160 320 50 5 35 400 5			0.6	1.2	400	9		120		10							TO-92-1
2SA984K	100	80	5	0.6	0.5	1	40			60 320 50 5 35 400 5			0.6	1.2	400	9		120		10							TO-92-1
BC204	50	45	5	0.625	0.1	0.05	45			50 450 2 5			0.3		10							10					TO-92
#BC212	60	50	5	0.35	0.1	0.015	30			40 60 0.01 5 2 5			0.6	1.4	100	6		280		10		10	0.001				TO-92-4
#BC212A	60	50	5	0.35	0.1	0.015	30			40 100 0.01 5 300 2 5			0.6	1.4	100	6		280		10		10					TO-92-4
#BC212B	60	50	5	0.35	0.1	0.015	30			40 200 0.01 5 400 2 5			0.6	1.4	100	6		280		10		10					TO-92-4

\* NOTE: hFE values are hfe(min) & hfe(max) at 1.00 kHz

