

**2.1.5 TO-220 Type Transistors**

Ic (A)	V <sub>CEO</sub> (V)	Device Type		Condition				h <sub>FE</sub>		Condition		V <sub>CE(sat)</sub> (V)		Condition		f <sub>T</sub> (MHz)	P <sub>C</sub> (W)
		NPN	PNP	V <sub>CE</sub> (V)	I <sub>C</sub> (A)	MIN	MAX	I <sub>C</sub> (A)	I <sub>B</sub> (A)	TYP	MAX	V <sub>CE</sub> (V)	I <sub>C</sub> (A)	MIN	TYP		
3	60	TIP31A	TIP32A	4	3	10	50	3	0.375		1.2	10	0.5	3		40	
		KSD860	KSB834	5	0.5	60	200	3	0.3	0.5		5	0.5		9	30	
		*KSC1983		4	0.5	500		2	0.05		1	12	0.2		15	30	
	60	BD241A	BD242A	4	3	10		3	0.6		1.2	10	0.5	3		40	
	80	TIP31B	TIP32B	4	3	10	50	3	0.375		1.2	10	0.5	3		40	
	80	BD241A	BD242B	4	3	10		3	0.6		1.2	10	0.5	3		40	
	100	TIP31C	TIP32C	4	3	10	50	3	0.375		1.2	10	0.5	3		40	
100	BD241C	BD242C	4	3	10		3	0.6		1.2	10	0.5	3		40		
4	60	KSC2233		5	1	30	150	4	0.4		1	5	0.5		10	40	
	80	KSD526	KSB595	5	0.5	40	240	3	0.3	1.0	1.7	5	0.5	3		30	
5	60	KSD73		10	1	70	240	5	0.5		2	10	0.3		20	30	
	70	KSD326		5	5	20	140	5	0.5		1	5	0.5		10	40	
	100	KSC2517		5	2	40	200	3	0.3		0.6					30	
6	40	TIP41	TIP42	4	3	15	75	6	0.6		1.5	10	0.5	3		65	
	45	BD243	BD244	4	3	15		6	1		1.5	10	0.5	3		65	
	60	BD243A	BD244A	4	3	15		6	1		1.5	10	0.5	3		65	
	60	TIP41A	TIP42A	4	3	15	75	6	0.6		1.5	10	0.5	3		65	
	80	BD243B	BD244B	4	3	15		6	1		1.5	10	0.5	3		65	
	80	TIP42B	TIP42B	4	3	15	75	6	0.6		1.5	10	0.5	3		65	
	100	BD244C	BD244C	4	3	15		6	1		1.5	10	0.5	3		65	
	100	TIP41C	TIP42C	4	3	15	75	6	0.6		1.5	10	0.5	3		65	
	120	KSD363		5	1	40	240	1	0.1		1	5	0.5		10	40	
	7	60	KSD568	KSB707	1	3	40	200	5	0.5		0.5					40
80		KSD569	KSB708	1	3	40	200	5	0.5		0.5					40	
100		KSC2334	KSA1010	5	3	40	200	5	0.5		0.6					40	
150		BU407							5	0.5		1	10	0.5	10		60
		BU407H							5	0.8		1	10	0.5	10		
200		BU406							5	0.5		1	10	5	10		60
		BU406H							5	0.8		1	10	5	10		
200	BU408						6	1.2		1	10	5	10				
8	45	BD533	BD534	2	2	30	100	2	0.2		0.8	5	0.5	3		50	
	60	BD535	BD536	2	2	30	100	2	0.2		0.8	5	0.5	3		50	
	80	BD537	BD538	2	2	30	100	2	0.2		0.8	5	0.5	3		50	
10	60	KSE3055T	KSE2955T	4	4	20	100	4	0.4		1.1	10	0.5	2		75	
	80	KSE44H	KSE45H	1	4	20		8	0.4		1	10	0.5		40	50	

\*: high  $\beta$