

# Small Signal Transistors

## TO-39 Case (Continued)



TYPE NO.	DESCRIPTION	V <sub>CBO</sub>	V <sub>CEO</sub>	V <sub>EBO</sub>	I <sub>CBO</sub>	@ V <sub>CB</sub>	h <sub>FE</sub>		@ I <sub>C</sub>	@ V <sub>CE</sub>	V <sub>CE(SAT)</sub>	@ I <sub>C</sub>	f <sub>T</sub>	C <sub>ob</sub>	t <sub>on</sub>	t <sub>off</sub>	NF
		(V)	(V) *V <sub>CER</sub>	(V)	(μA) *I <sub>CEO</sub> **I <sub>CES</sub> ***I <sub>CEV</sub> ****I <sub>CER</sub>	(V)	MIN	MAX	(mA)	(V)	(V)	(mA)	(MHz) *TYP †TYP ‡TYP in GHz	(pF) *TYP	(ns) *TYP	(ns) *TYP	(dB) *TYP
		MIN	MIN	MIN							MAX		MIN	MAX	MAX	MAX	MAX
2N5784	NPN AMPL/SWITCH	80	65	5.0	10***	75	20	150	1,000	2.0	0.50	1,000	1.0	--	--	--	--
2N5785	NPN AMPL/SWITCH	65	50	5.0	10***	60	20	100	1,200	2.0	0.75	1,200	1.0	--	--	--	--
2N5786	NPN AMPL/SWITCH	45	40	3.5	10***	45	20	150	1,600	2.0	1.00	1,600	1.0		5.0	15	--
2N5859	NPN CORE DRIVER	80	40	6.0	0.25	50	30	120	500	1.0	0.70	1,000	250	7.0	35	60	--
2N5861	NPN CORE DRIVER	100	50	6.0	0.30	50	25	100	500	1.0	0.50	500	200	7.0	25	60	--
2N6190	NPN HIGH CURRENT	80	80	6.0	10	80	30	120	2,000	2.0	0.70	2,000	30	300	--	--	--
2N6191	PNP HIGH CURRENT	80	80	6.0	10	80	60	240	2,000	2.0	0.70	2,000	30	300	--	--	--
2N6192	PNP HIGH CURRENT	100	100	6.0	10	100	30	120	2,000	2.0	0.70	2,000	30	300	--	--	--
2N6193	PNP HIGH CURRENT	100	100	6.0	10	100	60	240	2,000	2.0	0.70	2,000	30	300	--	--	--
BC140	NPN AMPL/SWITCH	80	40	7.0	0.10**	60	40	250	100	1.0	1.00	1,000	50	25	250	850	--
BC141	NPN AMPL/SWITCH	100	60	7.0	0.10**	60	40	250	100	1.0	1.00	1,000	50	25	250	850	--
BC160	PNP AMPL/SWITCH	40	40	5.0	0.10**	40	40	250	100	1.0	1.00	1,000	50	30	500	650	--
BC161	PNP AMPL/SWITCH	60	60	5.0	0.10**	60	40	250	100	1.0	1.00	1,000	50	30	500	650	--
BC300	NPN AMPL/SWITCH	120	80	7.0	0.02	60	40	240	150	10	0.50	150	100*	12*	--	--	--
BC301	NPN AMPL/SWITCH	90	60	7.0	0.02	60	40	240	150	10	0.50	150	100*	12*	--	--	--
BC302	NPN AMPL/SWITCH	60	45	7.0	0.02	60	40	240	150	10	0.50	150	100*	12*	--	--	--
BC303	PNP AMPL/SWITCH	85	60	6.0	0.02	60	40	240	150	10	0.65	150	100*	15*	--	--	--
BC304	PNP AMPL/SWITCH	60	45	6.0	0.02	60	40	240	150	10	0.65	150	100*	15*	--	--	--
BC440	NPN AMPL/SWITCH	50	40	5.0	0.10	40	40	250	500	4.0	1.00	1,000	50	--	--	--	--
BC441	NPN AMPL/SWITCH	70	60	5.0	0.10	40	40	250	500	4.0	1.00	1,000	50	--	--	--	--
BC460	PNP AMPL/SWITCH	50	40	5.0	0.10	40	40	250	500	4.0	1.00	1,000	50	--	--	--	--
BC461	PNP AMPL/SWITCH	70	60	5.0	0.10	40	40	250	500	4.0	1.00	1,000	50	--	--	--	--
BCW78	NPN AMPL/SWITCH	45	45	5.0	0.02**	45	100	630	100	1.0	0.70	500	--	--	--	--	--
BCW80	PNP AMPL/SWITCH	45	45	5.0	0.02**	45	63	400	100	1.0	0.70	500	--	--	--	--	--
BD115	NPN HIGH VOLTAGE	250	180	5.0	550*	200	22	--	50	100	9.00	100	150*	--	--	--	--
BF178	NPN AMPL/SWITCH	185	115	5.0	0.01	185	20	--	30	20	--	--	120*	--	--	--	--
BF257	NPN HIGH VOLTAGE	160	160	5.0	50	100	25	--	30	10	1.00	30	90*	--	--	--	--
BF258	NPN HIGH VOLTAGE	250	250	5.0	50	200	25	--	30	10	1.00	30	90*	--	--	--	--
BF259	NPN HIGH VOLTAGE	300	300	5.0	50	250	25	--	30	10	1.00	30	90*	--	--	--	--
BF337	NPN HIGH VOLTAGE	250	200	5.0	100****	200	20	--	30	10	--	--	--	--	--	--	--
BFR36	NPN AMPL/SWITCH	40	30	3.0	0.15	20	60	--	70	5.0	--	--	1.0	--	--	--	4.0*
BFS89	NPN HIGH VOLTAGE	300	300	5.0	0.05	250	25	--	50	10	--	--	--	--	--	--	--
BFS95	PNP AMPL/SWITCH	40	35	6.0	0.05	30	15	--	1,000	10	0.20	150	--	--	--	--	--
BFT28C	PNP HIGH VOLTAGE	300	250	--	5.00	150	20	--	10	10	5.00	30	25	--	--	--	--
BFW16A	NPN AMPL/SWITCH	40	25	3.0	20	20	25	--	50	5.0	--	--	1.2†	--	--	--	6.0
BFW44	PNP AMPL/SWITCH	150	150	6.0	0.01	100	40	--	10	10	0.50	10	60	7.0	--	--	--
BFX34	NPN AMPL/SWITCH	120	60	6.0	10**	60	40	150	2,000	2.0	1.00	5,000	70	100	600	1,200	--
BFX84	NPN AMPL/SWITCH	100	60	6.0	0.50	100	30	--	150	10	1.00	500	50	12	--	--	--
BFX85	NPN AMPL/SWITCH	100	60	6.0	0.50	100	70	--	150	10	1.00	500	50	12	--	--	--

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