

# 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</sub> (SAT) @ 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	(pF) *TYP	(ns) *TYP	(ns) *TYP	(dB) *TYP
		MIN	MIN	MIN							MAX	MIN	MAX	MAX	MAX	MAX	MAX
2N4930	PNP HIGH VOLTAGE	200	200	4.0	1.00	150	20	200	10	10	5.00	10	20	20	--	--	--
2N4931	PNP HIGH VOLTAGE	250	250	4.0	1.00	150	20	200	10	10	5.00	10	20	20	--	--	--
2N4943	NPN AMPL/SWITCH	120	80	7.0	0.01	60	100	300	150	10	0.25	150	12	--	--	--	--
2N4960	NPN AMPL/SWITCH	60	60	6.5	0.01	50	100	300	150	10	0.50	500	250	15	--	--	--
2N5022	PNP CORE DRIVER	50	50	5.0	100**	30	25	100	500	1.0	0.80	1.0	170	25	40	90	--
2N5023	PNP CORE DRIVER	30	30	5.0	100**	20	40	100	500	1.0	0.70	1.0	200	25	40	90	--
2N5058	NPN HIGH VOLTAGE	300	300	7.0	0.05	100	35	150	30	25	1.00	30	30	10	--	--	--
2N5059	NPN HIGH VOLTAGE	250	250	6.0	0.05	100	30	150	30	25	1.00	30	30	10	--	--	--
2N5109	NPN HIGH FREQUENCY	40	20	3.0	5.00***	35	40	120	50	15	0.50	100	1,200	3.5	--	--	3.0*
2N5147	PNP HIGH CURRENT	100	80	5.5	1.00**	60	30	90	1,000	5.0	0.85	2,000	--	--	--	--	--
2N5148	NPN HIGH CURRENT	100	80	6.0	1.00**	60	30	90	1,000	5.0	5.00	3,000	60	70	--	--	--
2N5149	PNP HIGH CURRENT	100	80	5.5	1.00**	60	70	200	1,000	5.0	0.85	2,000	60	70	--	--	--
2N5150	NPN HIGH CURRENT	100	80	6.0	1.00**	60	70	200	1,000	5.0	5.00	3,000	60	70	--	--	--
2N5151	PNP HIGH CURRENT	100	80	5.5	1.00**	60	30	90	2,500	5.0	0.75	2,500	60	250	--	--	--
2N5152	NPN HIGH CURRENT	100	80	6.0	1.00**	60	70	200	2,500	5.0	0.75	2,500	70	250	--	--	--
2N5153	PNP HIGH CURRENT	100	80	5.5	1.00**	60	30	90	2,500	5.0	0.75	2,500	60	250	--	--	--
2N5154	NPN HIGH CURRENT	100	80	6.0	1.00**	60	70	200	2,500	5.0	0.75	2,500	70	250	--	--	--
2N5189	NPN CORE DRIVER	60	35	5.0	0.50	30	35	--	500	1.0	1.00	1.0	250	12	40	70	--
2N5262	NPN CORE DRIVER	75	50	5.0	1.00**	30	35	--	100	1.0	0.80	1,000	250	12	30	60	--
2N5320	NPN AMPL/SWITCH	100	75	7.0	100	100	30	130	500	4.0	0.50	500	50	--	80	800	--
2N5321	NPN AMPL/SWITCH	75	50	5.0	100	75	40	250	500	4.0	0.80	500	50	--	80	800	--
2N5322	PNP AMPL/SWITCH	100	75	5.0	100	100	30	130	500	4.0	0.70	500	50	--	100	1,000	--
2N5323	PNP AMPL/SWITCH	75	50	5.0	100	75	40	250	500	4.0	1.20	500	50	--	100	1,000	--
2N5333	PNP AMPL/SWITCH	100	80	6.0	10**	90	30	120	1,000	4.0	1.00	2,000	30	--	--	--	--
2N5334	NPN AMPL/SWITCH	60	60	6.0	5.00	60	30	150	1,000	2.0	0.70	2,000	40	75	--	--	--
2N5335	NPN AMPL/SWITCH	80	80	6.0	5.00	80	30	150	1,000	2.0	0.70	2,000	40	75	--	--	--
2N5336	NPN FAST SWITCH	80	80	6.0	10	80	30	120	2,000	2.0	0.70	2,000	30	250	--	--	--
2N5337	NPN HIGH CURRENT	80	80	6.0	10	80	60	240	2,000	2.0	0.70	2,000	30	250	--	--	--
2N5338	NPN HIGH CURRENT	100	100	6.0	10	100	30	120	2,000	2.0	0.70	2,000	30	250	--	--	--
2N5339	NPN HIGH CURRENT	100	100	6.0	10	100	60	240	2,000	2.0	0.70	2,000	30	250	--	--	--
2N5415	PNP HIGH VOLTAGE	200	200	4.0	50	175	30	150	50	10	2.50	50	15	25	--	--	--
2N5416	PNP HIGH VOLTAGE	350	350	6.0	50	280	30	120	50	10	2.50	50	15	25	--	--	--
2N5679	PNP AMPL/SWITCH	100	100	4.0	1.00	100	40	150	250	2.0	1.00	500	30	50	--	--	--
2N5680	PNP AMPL/SWITCH	120	120	4.0	1.00	120	40	150	250	2.0	1.00	500	30	50	--	--	--
2N5681	NPN AMPL/SWITCH	100	100	4.0	1.00	100	40	150	250	2.0	1.00	500	30	50	--	--	--
2N5682	NPN AMPL/SWITCH	120	120	4.0	1.00	120	40	150	250	2.0	1.00	500	30	50	--	--	--
2N5781	PNP AMPL/SWITCH	80	65	5.0	10***	75	20	100	1,000	2.0	0.50	1,000	8.0	--	--	--	--
2N5782	PNP AMPL/SWITCH	65	50	5.0	10***	60	20	100	1,200	2.0	0.75	1,200	8.0	--	--	--	--
2N5783	PNP AMPL/SWITCH	45	40	3.5	10***	45	20	100	1,600	2.0	1.00	1,600	8.0	--	--	--	--