

# 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)		(μA)	(V)			(mA)	(V)	(mA)	(MHz)	(pF)	(ns)	(ns)	(dB)
		MIN	*V <sub>CER</sub> MIN	MIN		*I <sub>CEO</sub> **I <sub>CEV</sub> ***I <sub>CEV</sub> ****I <sub>CER</sub>	MIN			MAX	MAX	MIN	MAX	*TYP	*TYP	*TYP	*TYP
BSY52	NPN AMPL/SWITCH	60	25	5.0	0.10	30	100	300	150	10	0.80	150	130*	10	--	--	--
BSY53	NPN AMPL/SWITCH	75	30	7.0	0.01	60	40	120	150	10	0.60	150	100*	10	--	--	--
BSY54	NPN AMPL/SWITCH	75	30	7.0	0.01	60	100	300	150	10	0.60	150	145*	10	--	--	--
BSY55	NPN AMPL/SWITCH	120	80	7.0	0.01	90	40	120	150	10	0.60	150	100*	10	--	--	--
BSY56	NPN AMPL/SWITCH	120	80	7.0	0.01	90	100	300	150	10	0.60	150	145*	10	--	--	--
BSY88	NPN AMPL/SWITCH	100	60	7.0	0.01	75	100	300	150	10	0.60	150	--	--	--	--	--
BUY47	NPN HIGH CURRENT	150	120	6.0	10	80	15	--	5,000	5.0	1.00	5,000	50*	80	1,000	2,000	--
BUY48	NPN HIGH CURRENT	200	170	6.0	10	100	15	--	5,000	5.0	1.00	5,000	50*	80	1,000	2,000	--
BUY49S	NPN HIGH VOLTAGE	250	200	6.0	0.1	200	40	--	500	5.0	0.20	500	50	30	300	1,000	--
BUY68	NPN HIGH CURRENT	100	60	6.0	1.00	60	40	250	1,000	1.0	1.00	5,000	50	80	350	750	--
MJ420	NPN HIGH VOLTAGE	275	250	6.0	100	275	25	250	30	20	5.00	30	15	12	--	--	--
MJ420S	NPN HIGH VOLTAGE	275	250	6.0	100	275	25	250	30	20	5.00	30	150	12	--	--	--
MJ421	NPN HIGH VOLTAGE	350	325	6.0	100	350	25	250	30	20	5.00	30	15	12	--	--	--
MJ421S	NPN HIGH VOLTAGE	350	325	6.0	100	350	25	250	30	20	5.00	30	15	12	--	--	--
MM420	NPN HIGH VOLTAGE	275	250	6.0	100	275	25	250	30	20	5.00	30	15	12	--	--	--
MM421	NPN HIGH VOLTAGE	350	325	6.0	100	350	25	250	30	20	5.00	30	15	12	--	--	--
MM3000	NPN HIGH VOLTAGE	100	100	5.0	1.00	50	20	--	10	10	--	--	150	7.0	--	--	--
MM3001	NPN HIGH VOLTAGE	150	150	5.0	1.00	75	20	--	10	10	--	--	150	7.0	--	--	--
MM3002	NPN HIGH VOLTAGE	200	200	5.0	5.00	100	20	--	10	10	--	--	150	15	--	--	--
MM3003	NPN HIGH VOLTAGE	250	250	5.0	5.00	100	20	--	10	10	--	--	150	15	--	--	--
MM3005	NPN AMPL/SWITCH	80	60	5.0	100	60	50	250	150	1.0	0.35	150	50	15	--	--	--
MM3006	NPN AMPL/SWITCH	100	80	5.0	100	80	50	250	200	1.0	0.35	150	50	15	--	--	--
MM3007	NPN AMPL/SWITCH	120	100	5.0	100	100	50	250	250	1.0	0.35	150	50	15	--	--	--
MM3008	NPN HIGH VOLTAGE	120	120	6.0	0.10	120	30	--	1.0	10	--	--	50	3.0	--	--	--
MM3009	NPN HIGH VOLTAGE	180	180	6.0	0.10	180	30	--	1.0	10	--	--	50	3.0	--	--	--
MM4000	PNP HIGH VOLTAGE	100	100	4.0	1.00	50	20	--	10	10	0.60	10	--	6.0	--	--	--
MM4001	PNP HIGH VOLTAGE	150	150	4.0	1.00	75	20	--	10	10	0.60	10	--	10	--	--	--
MM4002	PNP HIGH VOLTAGE	200	200	4.0	5.00	150	20	--	10	10	5.00	10	--	20	--	--	--
MM4003	PNP HIGH VOLTAGE	250	250	4.0	5.00	150	20	--	10	10	5.00	10	--	20	--	--	--
MM5415	PNP HIGH VOLTAGE	200	200	4.0	50	175	30	150	50	10	2.50	50	15	25	--	--	--
MM5416	PNP HIGH VOLTAGE	350	300	7.0	50	280	30	120	50	10	2.50	50	15	25	--	--	--
SE7001	NPN HIGHVOLTAGE	150	150	5.0	0.10	75	30	--	30	10	2.00	50	40	9.0	--	--	--
SE7002	NPN HIGH VOLTAGE	120	120	5.0	0.10	75	30	--	30	10	0.90	50	40	3.5	--	--	--
SE7056	NPN HIGH VOLTAGE	300	300	7.0	0.10	200	40	100	30	10	1.00	20	40	3.0	--	--	--
40327	NPN HIGH VOLTAGE	300	300*	5.0	0.10	150	40	250	20	10	--	--	--	--	--	--	--
40347	NPN AMPL/SWITCH	60	40	7.0	1.00****	30	20	80	450	4.0	1.00	450	--	--	--	--	--
40348	NPN AMPL/SWITCH	90	65	7.0	1.00****	60	30	125	300	4.0	0.75	300	--	--	--	--	--
40406	PNP AMPL/SWITCH	50	50	4.0	--	--	30	200	0.1	10	--	--	100*	--	--	--	--
40408	NPN AMPL/SWITCH	50	90	4.0	--	--	40	200	10	4.0	1.40	150	100*	--	--	--	--
40412	NPN HIGH VOLTAGE	250	250*	4.0	2.00***	150	40	--	30	20	0.50	10	10	10	--	--	--

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## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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