

# Small Signal Transistors

## TO-18 Case (Continued)



TYPE NO.	DESCRIPTION	BV <sub>CBO</sub>	BV <sub>CEO</sub>	BV <sub>EBO</sub>	I <sub>CBO</sub> @ (mA) MAX *I <sub>ICES</sub> **I <sub>ICEV</sub>	V <sub>CB</sub> (V)	h <sub>FE</sub>		@ I <sub>C</sub> (mA)	@ V <sub>CE</sub> (V)	V <sub>CE(SAT)</sub> @ I <sub>C</sub>		C <sub>ob</sub> (pF) MAX	f <sub>T</sub> (MHz) MIN	NF (dB) MAX	t <sub>on</sub> (ns) MAX	t <sub>off</sub> (ns) MAX
		(V) MIN	(V) MIN	(V) MIN			MIN	MAX			(V) MAX	(mA)					
2N2896	NPN AMPL/SWITCH	140	90	7.0	0.01	60	60	200	150	10	0.6	150	15	120	--	--	--
2N2897	NPN AMPL/SWITCH	60	45	7.0	0.05	60	50	200	150	10	1.0	150	15	100	--	--	--
2N2906	PNP AMPL/SWITCH	60	60	5.0	0.01	50	40	120	150	10	0.4	150	8.0	200	--	--	100
2N2906A	PNP AMPL/SWITCH	60	60	5.0	0.01	50	40	120	150	10	0.4	150	8.0	200	--	--	100
2N2907	PNP AMPL/SWITCH	60	60	5.0	0.01	50	100	300	150	10	0.4	150	8.0	200	--	--	100
2N2907A	PNP AMPL/SWITCH	60	60	5.0	0.01	50	100	300	150	10	0.4	150	8.0	200	--	--	100
2N2952	NPN AMPL/SWITCH	60	20	5.0	0.1	50	20	--	150	10	0.5	150	8.0	200	--	--	--
2N3009	NPN SAT SWITCH	40	15	4.0	0.5*	20	30	120	30	0.4	0.5	300	5.0	350	--	15	25
2N3011	NPN SAT SWITCH	30	12	5.0	0.4*	20	30	120	10	0.35	0.5	100	4.0	400	--	15	20
2N3012	PNP SAT SWITCH	12	12	4.0	0.08*	6.0	30	120	30	0.5	0.2	30	6.0	400	--	60	75
2N3013	NPN SAT SWITCH	40	15	5.0	0.3*	20	30	120	30	0.4	0.5	300	5.0	350	--	15	25
2N3014	NPN SAT SWITCH	40	20	5.0	0.3*	20	30	120	30	0.4	0.35	100	5.0	350	--	16	25
2N3073	PNP AMPL/SWITCH	60	60	4.0	0.01*	30	30	130	50	1.0	0.25	50	10	130	--	40	100
2N3115	NPN AMPL/SWITCH	20	20	5.0	--	--	40	120	150	10	0.5	150	8.0	250	--	--	--
2N3116	NPN AMPL/SWITCH	20	20	5.0	--	--	100	300	150	10	0.5	150	8.0	250	--	--	--
2N3117	NPN AMPL/SWITCH	60	60	6.0	10nA	45	250	500	0.01	10	0.35	1.0	4.5	60	--	--	--
2N3121	PNP AMPL/SWITCH	45	45	4.0	0.01	30	30	--	150	10	0.5	150	10	130	--	--	--
2N3135	PNP AMPL/SWITCH	50	35	4.0	0.05	30	40	--	150	10	0.5	150	10	200	--	--	--
2N3136	PNP AMPL/SWITCH	50	35	4.0	0.05	30	100	300	150	10	0.6	150	10	200	--	--	--
2N3209	PNP SAT SWITCH	20	20	4.0	0.08	10	25	--	10	0.3	0.15	10	5.0	400	--	60	90
2N3210	NPN SAT SWITCH	40	15	5.0	--	--	30	120	10	5.0	0.5	100	4.0	400	--	15	20
2N3241A	NPN AMPL/SWITCH	30	25	7.5	100	25	100	200	10	10	0.25	200	20	50	10	--	--
2N3242A	NPN AMPL/SWITCH	40	40	8.0	10	25	125	300	10	10	0.3	300	20	50	6.0	--	--
2N3246	NPN LOW NOISE	60	40	10	0.10	40	400	--	1.0	5.0	0.5	5.0	5.0	60	2.0	--	--
2N3248	PNP SAT SWITCH	15	12	5.0	0.05	10	50	150	10	1.0	0.125	10	8.0	250	--	15	20
2N3249	PNP SAT SWITCH	15	12	5.0	0.05**	10	100	300	0.1	1.0	0.25	50	8.0	300	--	90	100
2N3250A	PNP AMPL/SWITCH	60	60	5.0	0.02	40	50	150	10	1.0	0.25	10	6.0	250	--	35	50
2N3251A	PNP AMPL/SWITCH	60	60	5.0	0.02	40	100	300	10	1.0	0.25	10	6.0	300	--	35	50
2N3301	NPN AMPL/SWITCH	60	30	5.0	0.01	50	40	120	150	10	0.22	150	8.0	250	--	--	--
2N3302	NPN AMPL/SWITCH	60	30	5.0	0.01	50	100	300	150	10	0.22	150	8.0	250	--	--	--
2N3496	PNP AMPL/SWITCH	80	80	4.0	0.1	50	40	--	10	10	0.3	10	7.0	200	--	--	--
2N3497	PNP AMPL/SWITCH	120	120	4.0	0.1	90	40	--	10	10	0.35	10	6.0	150	--	--	--
2N3504	PNP AMPL/SWITCH	45	45	5.0	--	--	100	300	150	10	0.25	50	8.0	200	--	--	--
2N3505	PNP AMPL/SWITCH	60	60	5.0	0.01	30	100	300	150	10	0.4	150	8.0	200	--	--	--
2N3545	PNP SAT SWITCH	20	20	5.0	--	--	40	120	10	1.0	0.5	100	8.0	250	--	60	90
2N3546	PNP SAT SWITCH	15	12	4.5	0.01	10	30	120	10	1.0	0.5	100	6.0	700	--	40	30
2N3547	PNP LOW NOISE	60	60	6.0	0.025	45	100	500	1.0	5.0	1.0	10	8.0	45	5.0	--	--
2N3548	PNP LOW NOISE	60	45	6.0	0.01	45	100	300	0.01	5.0	1.0	10	8.0	60	4.0	--	--
2N3549	PNP LOW NOISE	60	60	6.0	0.01	45	100	500	0.01	5.0	1.0	10	8.0	60	4.0	--	--
2N3550	PNP LOW NOISE	60	45	8.0	0.01	45	200	600	0.01	5.0	0.5	5.0	8.0	60	4.0	--	--

(15-August 2013)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



---

### 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

---

### 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

---

### 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).

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)