



semicon

Semicon Corp.

SEMICONDUCTORS

metal can transistors cont'd
silicon small signal transistors

Device	Type	Package	Maximum Ratings					Electrical Characteristics @ 25 C										
			P _D Ambient mW	V _{CB} Volts	V _{CE} Volts	V _{EB} Volts	h _{FE} Min/Max	V _{CE} (Sat) @ I _C /I _B		C _{cb} pF Max	C _{ob} pF Max	f _t MHz Min	t _{ON} ns Max	t _{OFF} ns Max	Power Gain @ f		NF @ f	
								Volts	mA/mA						dB Min	MHz	dB Max	MHz
2N1613	NPN	TO-5	800	75	50*	7	40/120	1.5	150/15	-	25	60	-	-	-	-	-	
2N1613A	NPN	TO-5	1000	75	50*	7	40/120	1	150/15	-	25	60	-	-	-	-	-	
2N1613B	NPN	TO-5	1000	120	50	7	40/120	0.2	150/15	-	10	60	-	-	-	-	-	
2N1711	NPN	TO-5	800	75	50*	7	100/300	1.5	150/15	-	25	70	-	-	-	-	-	
2N1711A	NPN	TO-5	1000	75	50*	7	100/300	1	150/15	-	25	70	-	-	-	-	-	
2N1711B	NPN	TO-5	1000	120	50	7	100/300	0.2	150/15	-	10	70	-	-	-	-	-	
2N1889	NPN	TO-5	800	100	60	7	40/120	5	150/15	-	15	50	-	-	-	-	-	
2N1890	NPN	TO-5	800	100	60	7	100/300	5	150/15	-	15	60	-	-	-	-	-	
2N1893	NPN	TO-5	800	120	80	7	40/120	5	150/15	-	15	50	-	-	-	-	-	
2N1893A	NPN	TO-5	800	140	80	7	40/120	2	150/15	-	8	100	-	-	-	-	-	
2N1990	NPN	TO-5	600	100	-	3	20/-	0.5	2/0.2	-	20	40	-	-	-	-	-	
2N2102	NPN	TO-5	1000	120	65	7	40/120	0.5	150/15	-	15	60	-	-	-	-	-	
2N2102A	NPN	TO-5	1000	120	65	7	40/120	0.3	150/15	-	15	60	-	-	-	-	-	
2N2192	NPN	TO-5	800	60	40	5	100/300	0.35	150/15	-	20	50	-	-	-	-	-	
2N2192A	NPN	TO-5	800	60	40	5	100/300	0.25	150/15	-	20	50	-	-	-	-	-	
2N2192B	NPN	TO-5	800	60	40	5	100/300	0.18	150/15	-	20	50	-	-	-	-	-	
2N2193	NPN	TO-5	800	80	50	8	40/120	0.35	150/15	-	20	50	-	-	-	-	-	
2N2193A	NPN	TO-5	800	80	50	8	40/120	0.25	150/15	-	20	50	-	-	-	-	-	
2N2193B	NPN	TO-5	800	80	50	8	40/120	0.18	150/15	-	20	50	-	-	-	-	-	
2N2194	NPN	TO-5	800	60	40	5	20/60	0.35	150/15	-	20	50	-	-	-	-	-	
2N2194A	NPN	TO-5	800	60	40	5	20/60	0.25	150/15	-	20	50	-	-	-	-	-	
2N2194B	NPN	TO-5	800	60	40	5	20/60	0.18	150/15	-	20	50	-	-	-	-	-	
2N2195	NPN	TO-5	800	45	25	5	20/-	0.35	150/15	-	20	50	-	-	-	-	-	
2N2195A	NPN	TO-5	800	45	25	5	20/-	0.25	150/15	-	20	50	-	-	-	-	-	
2N2195B	NPN	TO-5	800	45	25	5	20/-	0.18	150/15	-	20	50	-	-	-	-	-	
2N2205	NPN	TO-18	300	25	12	3	20/-	0.35	50/5	-	6	200	40	75	-	-	-	
2N2217	NPN	TO-5	800	60	30	5	20/60	0.4	150/15	-	8	250	35†	285†	-	-	-	
2N2218	NPN	TO-5	800	60	30	5	40/120	1.6	500/50	-	8	250	35†	285†	-	-	-	
2N2218A	NPN	TO-5	800	75	40	6	40/120	1.6	500/50	-	8	250	35	285	-	-	-	
2N2219	NPN	TO-5	800	60	30	5	100/300	1.6	500/50	-	8	250	35†	285†	-	-	-	
2N2219A	NPN	TO-5	800	75	40	6	100/300	1.6	500/50	-	8	300	35	285	-	-	-	
2N2220	NPN	TO-18	500	60	30	5	20/60	0.4	150/15	-	8	250	35†	285†	-	-	-	
2N2221	NPN	TO-18	500	60	30	5	40/120	1.6	500/50	-	8	250	35†	285†	-	-	-	
2N2221A	NPN	TO-18	500	75	40	6	40/120	1.6	500/50	-	8	250	35	285	-	-	-	
2N2222	NPN	TO-18	500	60	30	5	100/300	1.6	500/50	-	8	250	35†	285†	-	-	-	
2N2222A	NPN	TO-18	500	75	40	6	100/300	1.6	500/50	-	8	300	35	285	-	-	-	
2N2236	NPN	TO-5	600	40	20	6	15/60	0.25	100/20	-	35	50†	30	600	-	-	-	
2N2237	NPN	TO-5	600	40	20	6	40/125	0.25	100/20	-	35	50	25	600	-	-	-	
2N2243	NPN	TO-5	800	120	80	7	40/120	0.35	150/15	-	15	50	-	-	-	-	-	
2N2243A	NPN	TO-5	800	120	80	7	40/120	0.25	150/15	-	15	50	-	-	-	-	-	
2N2270	NPN	TO-5	1000	60	45	7	50/200	0.9	150/15	-	15	100	-	-	-	-	-	
2N2297	NPN	TO-5	800	80	35	7	40/120	0.2	150/15	-	12	60	-	-	-	-	-	
2N2303	PNP	TO-5	600	50	35	5	75/200	1.5	150/15	-	45	50	-	-	-	-	-	
2N2309	NPN	TO-5	600	30	30	5	25/125	-	-	-	25	40†	-	-	-	-	-	
2N2310	NPN	TO-46	350	60	60	8	12/36	5	200/40	-	20†	40†	-	-	-	-	-	
2N2311	NPN	TO-46	350	100	100	8	12/36	5	200/40	-	20†	40†	-	-	-	-	-	
2N2312	NPN	TO-46	350	60	60	8	30/90	5	200/40	-	20†	40†	-	-	-	-	-	
2N2313	NPN	TO-46	350	100	100	8	30/90	5	200/40	-	20†	40†	-	-	-	-	-	
2N2314	NPN	TO-46	350	60	40*	5	20/60	5	150/15	-	35	40	-	-	-	-	-	
2N2315	NPN	TO-46	350	60	40*	5	40/120	1.5	150/15	-	35	50	-	-	-	-	-	
2N2316	NPN	TO-46	350	120	80*	5	40/120	5.0	150/15	-	20	50	-	-	-	-	-	
2N2317	NPN	TO-46	350	75	50*	7	40/120	1.5	150/15	-	25	60	-	-	-	-	-	
2N2350	NPN	TO-46	400	60	40	5	100/300	0.35	150/15	-	20	50	-	-	-	-	-	
2N2350A	NPN	TO-46	400	60	40	5	100/300	0.25	150/15	-	20	50	-	-	-	-	-	
2N2351	NPN	TO-46	400	80	50	8	40/120	0.35	150/15	-	20	50	-	-	-	-	-	



semitronics hot line

discrete
devices

TOLL FREE NUMBER 800-777-3960

metal can transistors cont'd

silicon small signal transistors

Device	Type	Package	Maximum Ratings					Electrical Characteristics @ 25 °C										
			P _D Ambient mW	V _{CB} Volts	V _{CE} Volts	V _{EB} Volts	h _{FE} Min/Max	V _{CE} (Sat) @ I _C /I _B		C _{cb} pF Max	C _{ob} pF Max	f _t MHz Min	t _{ON} ns Max	t _{OFF} ns Max	Power Gain @ f		NF @ f	
								Volts	mA/mA						dB Min	MHz	dB Max	MHz
2N2351A	NPN	TO-46	400	80	50	8	40/120	0.25	150/15	-	20	50	-	-	-	-	-	-
2N2352	NPN	TO-46	400	60	40	5	20/60	0.35	150/15	-	20	50	-	-	-	-	-	-
2N2352A	NPN	TO-46	400	60	40	5	20/60	0.25	150/15	-	20	50	-	-	-	-	-	-
2N2353	NPN	TO-46	350	45	25	5	20/-	0.35	150/15	-	20	50	-	-	-	-	-	-
2N2353A	NPN	TO-46	350	45	25	5	20/-	0.25	150/15	-	20	50	-	-	-	-	-	-
2N2364	NPN	TO-46	400	120	80	7	40/120	0.35	150/15	-	15	50	-	-	-	-	-	-
2N2364A	NPN	TO-46	400	120	80	7	40/120	0.25	150/15	-	15	50	-	-	-	-	-	-
2N2368	NPN	TO-18	360	40	15	4.5	20/60	0.6	100/10	-	4	400	12	15	-	-	-	-
2N2369	NPN	TO-18	360	40	15	4.5	40/120	0.6	100/10	-	4	500	12	18	-	-	-	-
2N2369A	NPN	TO-18	360	40	15	4.5	40/120	0.5	100/10	-	4	500	12	18	-	-	-	-
2N2380	NPN	TO-5	600	80	40	5	20/120	1.3	150/15	-	14	100	125	195	-	-	-	-
2N2380A	NPN	TO-5	600	80	40	5	20/120	1.3	150/15	-	14	100	125	195	-	-	-	-
2N2405	NPN	TO-5	1000	120	90	7	60/200	0.5	150/15	-	15	40†	-	-	-	-	-	-
2N2479	NPN	TO-5	600	80	40	5	30/120	0.85	150/15	-	14	150	100†	185	-	-	-	-
2N2481	NPN	TO-18	360	40	15	5	40/120	0.4	100/10	-	5	300	40	55	-	-	-	-
2N2483	NPN	TO-18	360	60	60	6	40/120	0.35	1/0.1	-	6	60	-	-	-	-	4	15.7 kHz
2N2484	NPN	TO-18	360	60	60	6	100/300	0.35	1/0.1	-	6	60	-	-	-	-	3	15.7 kHz
2N2484A	NPN	TO-18	360	60	60	6	100/500	0.35	1/0.1	-	6	60	-	-	-	-	2	10.0 kHz
2N2509	NPN	TO-18	360	125	80	7	25/-	1.0	5/0.5	-	6	45	-	-	-	-	7	1.0 kHz
2N2510	NPN	TO-18	360	100	65	7	150/500	1.0	5/0.5	-	6	45	-	-	-	-	4	1.0 kHz
2N2511	NPN	TO-18	360	80	50	7	240/750	1.0	5/0.5	-	6	45	-	-	-	-	4	1.0 kHz
2N2588	NPN	TO-18	300	60	45	6	120/360	0.5	5/0.5	-	7	45	-	-	-	-	2	1.0 kHz
2N2604	PNP	TO-46	400	60	45	6	40/120	0.5	10/0.5	-	6	30	-	-	-	-	4	15.7 kHz
2N2605	PNP	TO-46	400	60	45	6	100/300	0.5	10/0.5	-	6	30	-	-	-	-	4	15.7 kHz
2N2645	NPN	TO-5	1000	120	90	7	60/200	0.5	150/15	-	15	40	-	-	-	-	-	-
2N2695	PNP	TO-46	360	25	25	4	30/130	1.0	300/30	-	20	100	75	170	-	-	-	-
2N2696	PNP	TO-18	360	25	25	4	30/130	1.0	300/30	-	20	100	75	170	-	-	-	-
2N2708	NPN	TO-72	200	35	20	3	30/200	-	-	-	1	700	-	-	15	200	7.5	200
2N2800	PNP	TO-5	800	50	35	5	30/90	1.2	500/50	-	25	120	70	270	-	-	-	-
2N2801	PNP	TO-5	800	50	35	5	75/225	1.2	500/50	-	25	120	70	270	-	-	-	-
2N2837	PNP	TO-18	500	50	35	5	30/90	1.2	500/50	-	25	120	70	270	-	-	-	-
2N2838	PNP	TO-18	500	50	35	5	75/225	1.2	500/50	-	25	120	70	270	-	-	-	-
2N2861	PNP	TO-18	300	25	20	5	30/120	0.2	10/1	-	6	200	-	-	-	-	3	10
2N2862	PNP	TO-18	300	25	20	5	12/120	0.2	10/1	-	6	150	-	-	-	-	4	10
2N2865	NPN	TO-72	200	25	13	3	20/200	-	-	-	2.5	600	-	-	16.5	200	4.5	200
2N2868	NPN	TO-5	800	60	40	7	40/120	0.25	150/15	-	20	50	-	-	-	-	-	-
2N2894	PNP	TO-18	1200	12	12	4	40/150	0.15	10/1	-	-	-	60	90	-	-	-	-
2N2895	NPN	TO-18	500	120	65	7	40/120	0.5	500/50	-	15	120	-	-	-	-	-	-
2N2896	NPN	TO-18	500	140	90	7	60/200	0.5	500/50	-	15	120	-	-	-	-	-	-
2N2897	NPN	TO-18	500	60	45	7	50/200	0.5	500/50	-	15	100	-	-	-	-	-	-
2N2898	NPN	TO-46	500	120	65	7	40/120	0.5	500/50	-	15	120	-	-	-	-	-	-
2N2899	NPN	TO-46	500	140	90	7	60/200	0.5	500/50	-	15	120	-	-	-	-	-	-
2N2900	NPN	TO-46	500	60	45	7	50/200	0.5	500/50	-	15	100	-	-	-	-	-	-
2N2904	PNP	TO-5	600	60	40	5	40/120	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2904A	PNP	TO-5	600	60	60	5	40/120	1.6	500/90	-	8	200	45	100	-	-	-	-
2N2905	PNP	TO-5	600	60	40	5	100/300	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2905A	PNP	TO-5	600	60	60	5	100/300	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2906	PNP	TO-18	400	60	40	5	40/120	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2906A	PNP	TO-18	400	60	60	5	40/120	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2907	PNP	TO-18	400	60	40	5	100/300	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2907A	PNP	TO-18	400	60	60	5	100/300	1.6	500/50	-	8	200	45	100	-	-	-	-
2N2958	NPN	TO-18	600	60	20	5	40/120	0.5	150/15	-	8	250	95	500	-	-	-	-
2N2959	NPN	TO-5	600	60	20	5	100/300	0.5	150/15	-	8	250	95	500	-	-	-	-
2N2960	NPN	TO-5	600	60	30	5	100/300	0.5	150/50	-	8	250	95	500	-	-	-	-
2N2961	NPN	TO-5	600	60	30	5	100/300	2.0	500/50	-	8	250	95	500	-	-	-	-
2N3010	NPN	TO-18	300	15	6	4	25/125	0.38	30/3	-	3	600	12	12	-	-	-	-
2N3011	NPN	TO-18	360	30	12	5	30/120	0.5	100/10	-	4	400	15	20	-	-	-	-
2N3012	PNP	TO-18	360	12	12	4	20/-	0.15	10/1	-	6	-	60	75	-	-	-	-
2N3019	NPN	TO-5	800	140	80	7	100/300	0.2	150/15	-	12	100	-	-	-	-	-	-
2N3020	NPN	TO-5	800	140	80	7	40/120	0.2	150/15	-	12	100	-	-	-	-	-	-
2N3036	NPN	TO-5	800	120	80	7	50/150	0.25	150/15	-	15	50	-	-	-	-	-	-

metal can transistors cont'd

silicon small signal transistors

Device	Type	Package	Maximum Ratings				Electrical Characteristics @ 25 °C											
			P _D Ambient mW	V _{CB} Volts	V _{CE} Volts	V _{EB} Volts	h _{FE} Min/Max	V _{CE} (Sat) @ I _C /I _B		C _{cb} pF Max	C _{ob} pF Max	f _t MHz Min	t _{ON} ns Max	t _{OFF} ns Max	Power Gain @ f		A _V @ f	
								Volts	mA/mA						dB Min	MHz	dB Max	MHz
2N3056	NPN	TO-46	400	100	60	7	40/120	0.25	150/15	-	12	80	-	-	-	-	-	-
2N3056A	NPN	TO-46	400	140	80	7	40/120	0.2	150/15	-	12	80	-	-	-	-	-	-
2N3057	NPN	TO-46	400	100	60	7	100/300	0.25	150/15	-	12	100	-	-	-	-	-	-
2N3057A	NPN	TO-46	400	140	80	7	100/300	0.2	150/15	-	12	100	-	-	-	-	-	-
2N3072	PNP	TO-5	800	60	60	4	30/130	1.0	300/30	-	10	130	40	100	-	-	-	-
2N3073	PNP	TO-18	360	60	60	4	30/130	1.0	300/30	-	10	130	40	100	-	-	-	-
2N3081	PNP	TO-5	600	70	50	6	30/90	1.4	500/50	-	13	150	60	175	-	-	-	-
2N3107	NPN	TO-46	800	100	60	7	100/300	0.25	150/15	-	20	70	-	-	-	-	-	-
2N3108	NPN	TO-5	800	100	60	7	40/120	0.25	150/15	-	20	60	-	-	-	-	-	-
2N3109	NPN	TO-5	800	80	40	7	100/300	0.25	150/15	-	25	70	-	-	-	-	-	-
2N3110	NPN	TO-5	800	100	40	7	40/120	0.25	150/15	-	25	60	-	-	-	-	-	-
2N3115	NPN	TO-18	400	60	20	5	40/120	0.5	150/15	-	8	250	95	500	-	-	-	-
2N3116	NPN	TO-18	400	60	20	5	100/300	0.5	150/15	-	8	250	95	500	-	-	-	-
2N3117	NPN	TO-18	360	60	60	6	250/500	0.35	10/1	-	4.5	60	-	-	-	1	10	
2N3120	PNP	TO-5	800	45	45	4	30/130	1.0	500/50	-	10	130	40	100	-	-	-	-
2N3121	PNP	TO-18	360	45	45	4	30/130	1.0	500/50	-	10	130	40	100	-	-	-	-
2N3122	NPN	TO-5	800	50	30	5	25/100	1.5	300/30	-	25	60	-	-	-	-	-	-
2N3133	PNP	TO-5	600	50	35	4	40/120	0.6	150/15	-	10	200	75	150	-	-	-	-
2N3134	PNP	TO-5	600	50	35	4	100/300	0.6	150/15	-	10	200	75	150	-	-	-	-
2N3135	PNP	TO-18	400	50	35	4	40/120	0.6	150/15	-	10	200	75	150	-	-	-	-
2N3136	PNP	TO-18	400	50	35	4	100/100	0.6	150/15	-	10	200	75	150	-	-	-	-
2N3137	NPN	TO-5	800	40	20	4	20/120	0.3	50/5	-	3.5	-	-	-	6	250	-	-
2N3208	PNP	TO-18	360	20	20	4	30/120	0.15	10/1	-	5	400	60	90	-	-	-	-
2N3210	NPN	TO-18	360	40	15	5	30/120	0.5	100/10	-	4	400	15	20	-	-	-	-
2N3227	NPN	TO-18	360	40	20	6	30/120	0.75	200/20	-	6	300	40	40	-	-	-	-
2N3250	PNP	TO-18	360	50	40	5	50/150	0.5	50/5	-	6	250	70	225	-	-	-	-
2N3250A	PNP	TO-18	360	60	60	5	50/150	0.5	50/5	-	6	250	70	225	-	-	-	-
2N3251	PNP	TO-18	360	50	40	5	100/300	0.5	50/5	-	6	300	70	250	-	-	-	-
2N3251A	PNP	TO-18	360	60	60	5	100/300	0.5	50/5	-	6	300	70	250	-	-	-	-
2N3298	NPN	TO-5	800	60	30	5	40/120	0.6	500/50	-	8	250	60	150	-	-	-	-
2N3300	NPN	TO-5	800	60	30	5	100/300	0.6	500/50	-	8	250	60	150	-	-	-	-
2N3301	NPN	TO-18	360	60	30	5	40/120	0.6	500/50	-	8	250	60	150	-	-	-	-
2N3302	NPN	TO-18	360	60	30	5	100/300	0.6	500/50	-	8	250	60	150	-	-	-	-
2N3304	PNP	TO-18	300	6	6	4	12/-	0.5	50/5	-	3.5	500	60	60	-	-	-	-
2N3328	NPN	TO-5	800	60	45	5	40/120	1.6	500/50	-	8	250	45	340	-	-	-	-
2N3388	NPN	TO-5	600	125	100	6	60/-	1.0	2.5/05	-	35	36	-	-	-	-	-	-
2N3485	PNP	TO-46	360	60	40	5	40/120	1.6	500/50	-	8	200	50	110	-	-	-	-
2N3485A	PNP	TO-46	360	60	60	5	40/120	1.6	500/50	-	8	200	50	110	-	-	-	-
2N3486	PNP	TO-46	360	60	40	5	100/300	1.6	500/50	-	8	200	50	110	-	-	-	-
2N3486A	PNP	TO-46	360	60	60	5	100/300	1.6	500/50	-	8	200	50	110	-	-	-	-
2N3502	PNP	TO-5	700	45	45	5	100/300	1.6	500/50	-	8	200	40	100	-	-	-	-
2N3503	PNP	TO-5	700	60	60	5	100/300	1.6	500/50	-	8	200	40	100	-	-	-	-
2N3504	PNP	TO-18	400	45	45	5	100/300	1.6	500/50	-	8	200	40	100	-	-	-	-
2N3506	PNP	TO-18	400	60	60	5	100/300	1.6	500/50	-	8	200	40	100	-	-	-	-
2N3671	PNP	TO-5	600	60	50	5	75/225	1.6	500/50	-	9	200	50	110	-	-	-	-
2N3672	PNP	TO-18	400	60	50	5	75/225	1.6	500/50	-	9	200	50	110	-	-	-	-
2N3673	PNP	TO-46	350	60	50	5	75/225	1.6	500/50	-	9	200	50	110	-	-	-	-
2N3700	NPN	TO-18	500	140	80	7	100/300	0.2	150/15	-	12	100	-	-	-	-	-	-
2N3701	NPN	TO-18	500	140	80	7	40/120	0.2	150/15	-	12	80	-	-	-	-	-	-
2N3725	NPN	TO-5	1000	80	50	6	60/150	0.95	1000/100	-	10	300	35	60	-	-	-	-
2N3725A	NPN	TO-5	1000	80	50	6	60/150	0.95	1000/100	-	10	300	35	60	-	-	-	-
2N3847	NPN	TO-18	1200	60	40	6	100/300	0.2	10/1	-	4	300	-	-	-	-	5	15.7 kHz
2N4080	PNP	TO-72	200	20	15	3	20/-	-	-	-	1.7	1000	-	-	15	200	6	200
2N4137	NPN	TO-18	360	40	10	4.5	40/120	0.5	100/10	-	5	500	12	12	-	-	-	-
2N4207	PNP	TO-18	350	6	6	4.5	50/120	0.15	10/1	-	3	-	15	15	-	-	-	-
2N4208	PNP	TO-18	350	12	12	4.5	30/120	0.15	10/1	-	3	-	15	20	-	-	-	-
2N4209	PNP	TO-18	350	15	15	4.5	50/120	0.18	10/1	-	3	-	15	20	-	-	-	-
2N4872	PNP	TO-18	300	12	12	4.5	50/120	0.15	10/1	-	3	-	15	20	-	-	-	-
2N5056	PNP	TO-18	360	15	15	4.5	20/-	0.13	10/1	4.5	-	-	20	35	-	-	-	-
2N5057	PNP	TO-18	360	15	15	4.5	30/-	0.13	10/1	4.5	-	-	20	35	-	-	-	-