

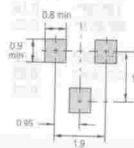
Low Power Bipolar Transistors - SMD (Ptot to 0.65W) - continued

SOT-23 High Voltage - continued

Order Multiple=5		Price Each			
Mfrs. List No.	Order Code	5+	100+	1K+	5K+
FMMT458	SMD707-867	0.290	0.210	0.138	0.090
FMMT497	SMD302-7004	0.280	0.200	0.140	0.082
FMMT558	SMD707-909	0.330	0.240	0.166	0.102
FMMT560	SMD301-4733	0.360	0.270	0.181	0.114
FMMT597	SMD302-7016	0.310	0.230	0.153	0.093
FMMTA42	SMD516-892	0.220	0.150	0.109	0.072
FMMTA92	SMD516-909	0.220	0.150	0.109	0.072
Order Multiple=10		Price Each			
Mfrs. List No.	Order Code	10+	100+	1K+	3K+
MMBTA42	SMD742-995	0.094	0.060	0.051	0.033
MMBTA92	SMD743-008	0.087	0.059	0.041	0.027

SOT-23 High Performance

High performance complementary pairs, supplied on 8mm tape.



ZETEX

SMD

V _{CE0} max. V	I _C max. A	f _T min. MHz	h _{FE} min.	@	I _C mA	P _{tot} @ 25°C W	Device Marking	Mfrs. List No.
12	1.25	205	300	100	0.5	0.5	L77	FMMTL717
20	1	265	200	500	0.5	0.5	L78	FMMTL718
30	1	150	100	100	0.5	0.5	589	FMMT589
40	1	150	300	500	0.5	0.5	41A/91A	FMMT491A
60	1	150	100	500	0.5	0.5	491/591	FMMT491
100	0.8	—	15000	1	0.63	0.5	734	FMMT591
100	1	150	100	250	0.5	0.5	493/593	FMMT493
150	1	100	100	250	0.5	0.5	495	FMMT495
200	0.3	150	100	100	0.5	0.5	596	FMMT596

Order Multiple=5		Price Each			
Mfrs. List No.	Order Code	5+	100+	1K+	5K+
FMMT491	SMD516-910	0.210	0.156	0.101	0.076
FMMT491A	SMD707-880	0.260	0.189	0.121	0.076
FMMT493	SMD506-497	0.210	0.156	0.101	0.076
FMMT495	SMD302-7028	0.260	0.189	0.121	0.076
FMMT589	SMD707-910	0.260	0.186	0.125	0.080
FMMT591	SMD516-922	0.220	0.155	0.104	0.080
FMMT591A	SMD707-922	0.260	0.186	0.125	0.080
FMMT593	SMD506-503	0.220	0.155	0.104	0.080
FMMT596	SMD302-7030	0.260	0.186	0.125	0.080
FMMT734	SMD301-4721	0.380	0.270	0.181	0.114
FMMTL717	SMD302-7041	0.290	0.210	0.138	0.090
FMMTL718	SMD301-4654	0.260	0.195	0.126	0.090

Low Power Bipolar Transistors - Leaded (Ptot to 1.0W)

TO-1, TO-18 General Purpose Amplifiers/Switches



TO-18

V _{CE0} max. V	I _C max. A	f _T min. MHz	h _{FE} min.	@	I _C mA	P _{tot} (typ.)* mW	Package	Mfrs. List No.
16	32	1.0	45	2	1	267	TO-1	—
20	30	0.1	110	2	150	600	TO-18(a)	MC BC108
20	30	0.1	110	2	300*	300	TO-18(a)	ST BC108
20	30	0.1	110	2	150	600	TO-18(a)	MC BC108B
20	30	0.1	200	2	150	600	TO-18(a)	MC BC108C
20	30	0.1	420	2	150	300	TO-18(a)	ST BC108C
25	40	0.2	60	50	100	360	TO-92(a)	—
45	50	0.1	120	2	200	600	TO-18(a)	MC 2N3702
45	50	0.1	70	2	150	300	TO-18(a)	ST BC177
45	50	0.1	110	2	150	300	TO-18(a)	MC BC107
45	50	0.1	110	2	300*	300	TO-18(a)	ST BC107
45	50	0.1	110	2	150	600	TO-18(a)	MC BC107A
45	50	0.1	180	2	200	600	TO-18(a)	MC BC177B
45	50	0.1	180	2	150	300	TO-18(a)	ST BC177B
45	50	0.1	200	2	150	600	TO-18(a)	MC BC107B
80	90	0.15	50	2	100	360	TO-18(a)	MC BC477

Order Multiple=1		Price Each			
Mfrs. List No.	Order Code	1+	25+	100+	1K+
AC128	356-256	1.390	1.080	0.880	0.750
Order Multiple=5		Price Each			
Mfrs. List No.	Order Code	5+	25+	100+	1K+
BC107	301-0417	0.440	0.340	0.250	0.180
BC107	356-270	0.680	0.400	0.260	0.172
BC107A	301-0429	0.550	0.350	0.280	0.174
BC107B	301-0430	0.560	0.360	0.280	0.175
BC108	301-0399	0.380	0.290	0.230	0.148
BC108	356-335	1.030	0.660	0.390	0.250
BC108B	301-0405	0.520	0.340	0.250	0.163
BC108C	301-0478	0.510	0.330	0.260	0.159
BC108C	356-372	1.130	0.720	0.420	0.250
BC177	301-0480	0.640	0.390	0.280	0.185
BC177	356-438	0.410	0.330	0.290	0.210
BC177B	301-0491	0.680	0.410	0.290	0.188
BC177B	356-451	1.260	0.810	0.470	0.280
BC477	301-0508	0.800	0.480	0.350	0.230
BC477	357-017	1.390	0.910	0.700	0.440
2N3702	356-721	0.195	0.129	0.104	0.062

TO-5, TO-39 General Purpose Amplifiers/Switches



V _{CE0} max. V	V _{CE0} max. V	I _C max. A	h _{FE} min.	@	I _C mA	f _T min. MHz	P _{tot} mW	Package	Mfrs. List No.
20	40	1	60	150	50	800	TO-5	—	BFY52
30	60	1	40	150	50	800	TO-5	ST	BFY51
35	80	1	30	150	60	800	TO-5	ST	BFY50
75	75	1	85	100	100	800	TO-39	—	BFY40
80	120	0.5	40	150	50	800	TO-5	ST	2N1893
80	80	1	100	100	150	800	TO-39	ST	2N4033

Order Multiple=5		Price Each			
Mfrs. List No.	Order Code	5+	25+	100+	1K+
BFY40	357-509	1.72	1.19	0.91	0.49
BFY50	357-560	1.28	0.86	0.64	0.42
BFY51	357-571	1.28	0.86	0.64	0.42
BFY52	357-583	0.58	0.40	0.31	0.26
2N1893	358-459	1.03	0.65	0.48	0.33
2N4033	358-873	1.26	0.77	0.59	0.38

TO-92 General Purpose Amplifiers/Switches

PHILIPS

NPN/PNP



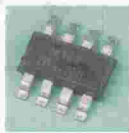
TO-92 (SOT-54A)
Lead spacing = 2.54

V _{CE0} V	V _{CE0} max. V	I _C A	h _{FE} min.	@	I _C mA	f _T min. (typ.)* MHz	P _{tot} mW	Mfrs. List No.
NPN								
25	30	0.5	100	100	200*	800		BC338
40	75	0.6	100	150	300	500		PM2222A
45	50	0.1	110	2	300*	500		BC547
45	50	0.1	200	2	300*	500		BC547B
45	50	0.1	420	2	100	500		BC550C
45	50	0.5	100	100	200*	800		BC337
65	80	0.1	110	2	300*	500		BC546
PNP								
45	50	0.1	75	2	200*	500		BC557
45	50	0.1	420	2	100	500		BC557C
45	50	0.5	100	100	100*	800		BC327
45	50	0.5	250	100	80	625		BC327-40
65	80	0.1	75	2	200*	500		BC556
65	80	0.1	125	2	100	500		BC556A

Order Multiple=5		Price Each			
Mfrs. List No.	Order Code	5+	25+	100+	1K+
BC327	356-943	0.042	0.024	0.024	0.016
BC327-40	316-4445	0.052	0.026	0.020	0.011
BC337	356-967	0.054	0.025	0.018	0.011
BC338	356-979	0.142	0.129	0.051	0.021
BC546	357-042	0.063	0.028	0.024	0.019
BC547	357-054	0.063	0.028	0.024	0.019
BC547B	234-291	0.068	0.031	0.027	0.020
BC550C	316-3246	0.075	0.034	0.030	0.023
BC556	357-145	0.075	0.032	0.032	0.021
BC556A	316-4457	0.068	0.031	0.027	0.020
BC557	357-167	0.063	0.028	0.024	0.019
BC557C	316-4469	0.068	0.031	0.027	0.020
PN2222A	316-4433	0.036	0.015	0.014	0.008

Low Power Bipolar Transistors (P_{tot} to 1.0W) — Continued

SM-8 Quad Packaged Transistors



- H-Bridge configured, complimentary npn/pnp devices
- 8 Lead SOT-223
- Low on-state losses
- Low drive requirements

ZETEX
SMD

V_{ce0} V	V_{ce0} max. V	I_c A	I_{cm} (pk) A	h_{fe} (min)	I_c A	f_T min. MHz	P_{tot} max. mW	Package	Mfrs. List No.
20	20	6	2.5	300	300	100	150	200	1 ZHB6718
40	50	6	2	500	300	100	500	450	1 ZHB6790

Mfrs. List No.	Order Code	1+	25+	100+	1K+
ZHB6718	996-166	1.67	1.32	0.89	0.72
ZHB6790	996-178	1.97	1.56	1.05	0.85

TO-1, TO-18 General Purpose Amplifiers/Switches

V_{ce0} V	V_{ce0} max. V	I_c A	h_{fe} min.	I_c mA	f_T min. MHz	P_{tot} max. mW	Package	Mfrs. List No.
16	32	1.0	45	2	1	267	TO-1	—
20	30	0.1	110	2	300*	300	TO-18(a)	PS/ST BC108
20	30	0.1	120	2	150	300	TO-18(a)	ZET BC108A
20	30	0.1	200	2	300*	300	TO-18(a)	PS BC108B
20	30	0.1	420	2	150	300	TO-18(a)	ST BC108C
25	40	0.2	60	50	100	360	TO-18(a)	—
45	50	0.1	70	2	150	300	TO-18(a)	ST BC177
45	50	0.1	110	2	300*	300	TO-18(a)	ST BC107
45	50	0.1	110	2	300*	300	TO-18(a)	PS BC107A
45	50	0.1	180	2	150	300	TO-18(a)	ST BC177B
45	50	0.1	200	2	300*	300	TO-18(a)	PS BC107B
80	90	0.15	50	2	100	360	TO-18(a)	ST BC477

Order Multiple=5	Order Code	5+	25+	100+	1K+	3K+
AC128	356-256	1.134	0.945	0.758	0.713	0.677
BC107	356-270	0.250	0.230	0.150	0.143	0.135
BC107A	356-281	0.170	0.155	0.145	0.143	0.141
BC107B	356-300	0.135	0.126	0.123	0.122	0.120
BC108 (PS)	356-323	0.134	0.122	0.114	0.112	0.111
BC108 (ST)	356-335	0.230	0.210	0.200	0.160	0.152
BC108A	356-347	0.642	0.540	0.364	0.316	0.250
BC108B	356-359	0.170	0.155	0.145	0.143	0.141
BC108C	356-372	0.530	0.350	0.210	0.180	0.150
BC177	356-438	0.300	0.250	0.210	0.150	0.140
BC177B	356-451	0.550	0.360	0.200	0.170	0.150
BC477	357-017	0.491	0.459	0.447	0.441	0.435
2N3702	358-071	0.130	0.100	0.080	0.070	0.060

† Available until stocks are exhausted

TO-5, TO-39 General Purpose Amplifiers/Switches

V_{ce0} V	V_{ce0} max. V	I_c A	h_{fe} min.	I_c mA	f_T min. MHz	P_{tot} max. mW	Package	Mfrs. List No.
20	40	1.0	60	150	50	800	TO-5	—
30	60	1.0	40	150	50	800	TO-5	ST BFX52
35	80	1.0	30	150	60	800	TO-5	ST BFX51
40	60	0.7	25	150	100	800	TO-39	MOT 2N3053
50	75	0.5	100	150	70	800	TO-5	ST 2N1711
60	60	0.6	50	10	100	600	TO-5	ZET BFX29
60	100	1.0	70	150	50	800	TO-39	ZET BFX85
75	75	1.0	85	100	100	800	TO-5	—
80	120	0.5	40	150	50	800	TO-5	ST 2N1893
80	80	1.0	100	100	150	800	TO-39	ST 2N4033
80	140	1.0	100	150	100	800	TO-39	ST 2N3019

Order Multiple=5	Order Code	5+	25+	100+	1K+	3K+
BFX29	357-479	0.856	0.720	0.485	0.421	—
BFX40	357-509	0.800	0.610	0.471	0.369	0.322
BFX85	357-534	0.560	0.490	0.390	0.340	0.320
BFY50	357-560	0.440	0.360	0.290	0.240	0.230
BFY51	357-571	0.420	0.380	0.340	0.240	0.230
BFY52	357-583	0.402	0.310	0.250	0.200	—
2N1711	358-447	0.733	0.480	0.346	0.183	0.171
2N1893	358-459	0.710	0.500	0.350	0.200	0.190
2N3019	358-678	0.480	0.390	0.280	0.260	0.240
2N3053	361-331	0.440	0.370	0.280	0.250	—
2N4033	358-873	0.856	0.560	0.404	0.213	0.200

† Available until stocks are exhausted

TO-92 General Purpose Amplifiers/Switches, NPN

V_{ce0} V	V_{ce0} max. V	I_c A	h_{fe} min.	I_c mA	f_T min. MHz	P_{tot} max. mW	Package	Mfrs. List No.
15	50	0.2	40	10	—	625	TO-92(d)	MOT MPS2369ZL1
20	30	0.1	125	2	150	300	TO-92(f)	—
20	25	1.0	85	500	65	625	TO-92(a)	MOT BC238
25	30	0.1	380	2	150	350	TO-92(d)	MOT BC368
25	30	0.2	120	2	300	625	TO-92(b)	MOT BC239C
25	30	0.5	100	100	200*	800	TO-92(f)	FCH 2N4124
25	30	0.8	250	100	210*	625	TO-92(d)	PS BC338
30	30	0.03	100	0.01	100	360	TO-92(a)	MOT BC338-25ZL1
30	30	0.1	110	2	300*	500	TO-92(f)	—
30	45	0.1	120	2	150	350	TO-92(d)	PS 2N3707
30	30	0.1	200	2	200	625	TO-92(d)	MOT BC548
30	30	0.1	200	2	300*	500	TO-92(f)	PS BC548B
30	45	0.1	250	2	150	350	TO-92(d)	MOT BC184
30	30	0.1	420	2	200	625	TO-92(d)	MOT BC548C
30	30	0.1	420	2	300*	500	TO-92(f)	PS BC548C
30	45	0.2	125	2	150	625	TO-92(f)	FCH BC183
30	45	0.2	240	2	150	625	TO-92(a)	FCH BC184L
30	45	0.2	240	2	150	625	TO-92(f)	FCH BC184
30	45	0.2	450	2	150	625	TO-92(a)	FCH BC183LC
30	45	0.2	450	2	150	625	TO-92(a)	FCH BC184LC
30	45	0.2	450	2	150	625	TO-92(f)	FCH BC183C
30	45	0.2	450	2	150	625	TO-92(f)	FCH BC184C
30	50	0.8	50	50	100	625	TO-92(a)	—
30	50	0.8	100	50	100	360	TO-92(a)	2N3705
40	75	0.6	100	150	300	625	TO-92(b)	MOT MPS2222A
40	60	2.0	75	1000	75*	625	TO-92(b)	MOT MPS650
45	50	0.1	110	2	200	625	TO-92(d)	MOT BC547A
45	50	0.1	110	2	300*	500	TO-92(f)	PS BC547
45	50	0.1	110	2	300*	500	TO-92(f)	PS BC547A
45	50	0.1	120	2	200	350	TO-92(d)	MOT BC237
45	50	0.1	200	2	200	350	TO-92(d)	MOT BC237B
45	50	0.1	200	2	200	625	TO-92(d)	MOT BC547B
45	50	0.1	200	2	300*	500	TO-92(f)	FCH/PS BC547B
45	50	0.1	350	2	150	625	TO-92(f)	FCH BC237B
45	50	0.1	380	2	150	350	TO-92(d)	MOT BC237CZL1
45	50	0.1	420	2	200	625	TO-92(d)	MOT BC547C
45	50	0.1	420	100	250*	625	TO-92(d)	MOT BC550CZL1
45	50	0.5	100	100	200*	800	TO-92(f)	FCH/PS BC337
45	50	0.8	100	100	60	625	TO-92(d)	MOT BC337
45	50	0.8	160	100	60	625	TO-92(d)	MOT BC337-25
45	50	0.8	250	100	210*	625	TO-92(d)	MOT BC337-40ZL1
45	50	1.0	100	100	—	625	TO-92(f)	FCH BC337-16
50	60	0.1	120	2	150	350	TO-92(d)	MOT BC182
50	60	0.1	120	2	120	350	TO-92(d)	MOT BC182B
50	60	0.2	125	2	150	625	TO-92(a)	FCH BC182L
50	60	0.2	125	2	150	625	TO-92(a)	FCH BC182LA
50	60	0.2	240	2	150	625	TO-92(a)	FCH BC182LB
50	60	0.2	240	2	150	625	TO-92(f)	FCH BC182B
60	60	0.5	100	100	100*	625	TO-92(f)	PS BC337A
65	80	0.1	110	2	300*	500	TO-92(f)	FCH/PS BC546
65	80	0.1	200	2	150	625	TO-92(d)	MOT BC546B
80	80	0.5	60	100	100	625	TO-92(d)	MOT BC489
80	100	1.5	40	150	130*	625	TO-92(f)	FCH BC639
100	100	2.0	20*	1000	—	800	TO-92(a)	PI TIPP31C
160	180	0.6	80	10	100	350	TO-92(b)	FCH 2N5551

Order Multiple=5					Price Each	
Mftrs. List No.	Order Code	5+	25+	100+	1K+	3K+
BC182 (FCH)	356-487	0.064	0.040	0.032	0.027	0.023
BC182 (MOT)	933-740	0.035	0.030	0.023	0.021	0.020
BC182B (FCH)	356-517	0.064	0.040	0.032	0.027	0.023
BC182B (MOT)	933-739	0.035	0.030	0.023	0.021	0.020
BC182L	356-529	0.130	0.100	0.080	0.058	0.045
BC182LA	356-530	0.064	0.040	0.032	0.027	0.023
BC182LB	356-542	0.068	0.043	0.034	0.029	0.025
BC183 (FCH)	356-554	0.064	0.040	0.032	0.027	0.023
BC183 (MOT)	933-752	0.035	0.030	0.023	0.021	0.020
BC183C	356-580	0.064	0.040	0.032	0.027	0.023
BC183LC	356-610	0.064	0.040	0.032	0.027	0.023
BC184 (FCH)	356-621	0.064	0.040	0.032	0.027	0.023
BC184 (MOT)	933-764	0.035	0.030	0.023	0.021	0.020
BC184C	356-657	0.064	0.040	0.032	0.027	0.023
BC184L	356-669	0.102	0.072	0.056	0.042	0.037
BC184LC	356-670	0.064	0.040	0.032	0.027	0.023
BC237	356-852	0.046	0.029	0.023	0.021	0.018
BC237B (FCH)	434-565	0.100	0.063	0.050	0.042	0.036
BC237B (MOT)	356-864	0.100	0.074	0.054	0.042	0.040
BC237CZL1	992-768	0.049	0.030	0.023	0.021	0.020
BC238	356-876	0.120	0.086	0.067	0.055	0.043
BC239C	992-770	0.049	0.030	0.023	0.021	0.020
BC337 (FCH)	434-807	0.113	0.068	0.049	0.038	0.031
BC337 (MOT)	933-727	0.090	0.074	0.044	0.034	0.030
BC337 (PS)	356-967	0.077	0.038	0.027	0.022	0.020
BC337-16	434-772	0.120	0.070	0.056	0.047	0.040
BC337-25	933-806	0.047	0.040	0.031	0.028	0.027
BC337-40ZL1	992-781	0.071	0.043	0.033	0.030	0.029
BC337A	437-529	0.077	0.038	0.027	0.022	0.020
BC338	356-979	0.085	0.085	0.043	0.033	0.026
BC338-25ZL1	992-793	0.065	0.040	0.031	0.028	0.027
BC368	933-594	0.112	0.097	0.074	0.067	0.064
BC489	933-612	0.187	0.161	0.123	0.111	0.106
BC546 (FCH)	434-784	0.140	0.084	0.060	0.047	0.038
BC546 (PS)	357-042	0.088	0.076	0.052	0.040	0.019
BC546B	933-880	0.078	0.047	0.026	0.020	0.018
BC547	357-054	0.076	0.068	0.044	0.038	0.019.
BC547A (MOT)	933-831	0.032	0.027	0.021	0.019	0.018
BC547A (PS)	234-357	0.074	0.073	0.034	0.024	0.019