

POWER TRANSISTORS

HIGH GAIN BIPOLAR DARLINGTONS

I _C (A)	V _{CB0} (V)	V _{CEO} (V)	P _{tot} (W)	Package	Type		h _{FE} min	@	I _C (A)	V _{CE} (V)	V _{CEsat} @ (V)	I _C (A)	I _B (mA)
					NPN	PNP							
2	60	60	50	SOT 82 (1)	SGS 110	SGS 115	1000		1	4	2.5	2	8
2	80	80	50	SOT 82 (1)	SGS 111	SGS 116	1000		1	4	2.5	2	8
2	100	100	50	SOT 82 (1)	SGS 112	SGS 117	1000		1	4	2.5	2	8
5	60	60	65	SOT 82 (1)	SGS 120	SGS 125	1000		3	3	2	3	12
5	80	80	65	SOT 82 (1)	SGS 121	SGS 126	1000		3	3	2	3	12
5	100	100	65	SOT 82 (1)	SGS 122	SGS 127	1000		3	3	2	3	12
6	60	60	60	SOT 82 (1)	BD 331	BD 332	750		3	3	2	3	12
6	80	80	60	SOT 82 (1)	BD 333	BD 334	750		3	3	2	3	12
6	100	100	60	SOT 82 (1)	BD 335	BD 336	750		3	3	2	3	12
8	40	40	65	SOT 82 (1)	SGS 6386		1000		3	3	2	3	6
8	60	60	65	SOT 82 (1)	SGS 130	SGS 135	1000		4	4	2	4	16
8	80	80	60	TO 220	BDX 53 B	BDX 54 B	750		3	3	2	3	12
8	80	80	65	SOT 82 (1)	SGS 131	SGS 136	1000		4	4	2	4	16
8	80	80	70	TO 220	TIP 131	TIP 136	1000		4	4	2	4	16
8	80	80	80	TO 220	TIP 101	TIP 106	1000		3	4	2	3	16
8	100	100	60	TO 220	BDX 53 C	BDX 54 C	750		3	3	2	3	12
8	100	100	65	SOT 82 (1)	SGS 132	SGS 137	1000		4	4	2	4	16
8	100	100	70	TO 220	TIP 132	TIP 137	1000		4	4	2	4	16
8	100	100	80	TO 220	TIP 102	TIP 107	1000		3	4	2	3	6
10	60	60	65	SOT 82	SGS 6387		1000		5	3	2	5	10
10	60	60	65	TO 220	2N 6387		1000		5	3	2	5	10
10	80	80	65	SOT 82	SGS 6388		1000		5	3	2	5	10
10	80	80	65	TO 220	2N 6388		1000		5	3	2	5	10
10	80	80	125	SOT 93	TIP 141	TIP 146	1000		5	4	3	10	40
10	100	100	125	SOT 93	TIP 142	TIP 147	1000		5	4	3	10	40
12	80	80	80	TO 220	BDW 93 B	BDW 94 B	750		5	3	2	5	20
12	100	100	80	TO 220	BDW 93 C	BDW 94 C	750		5	3	2	5	20
12	160	140	80	TO 220	SGSD 93E		1000		3	3	2	10	20
12	180	160	80	TO 220	SGSD 93F		1000		3	3	2	10	20
12	200	180	80	TO 220	SGSD 93G		1000		3	3	2	10	20
20	80	80	160	TO 3	2N 6283	2N 6286	750		10	3	3	20	200
25	80	80	130	SOT 93	SGSD 100	SGSD 200	300		20	3	1.75	10	400
30	60	60	200	TO 3	MJ 11012	MJ 11011	1000		20	5	4	30	300
30	90	90	200	TO 3	MJ 11014	MJ 11013	1000		20	5	4	30	300

(1) Also available in SOT 194 package for SMD.

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MOSFET TRANSISTORS FOR AUTOMOTIVE APPLICATIONS

V _(BR) DSS (V)	R _{DS} (on) max (Ω)	@ I _D (A)	Package	Type	I _D max (A)	P _{tot} (W)	g _{fs} min (mho)	C _{iss} max (pF)
50	0.13	5	SOT 194	SGSP222*	10	50	3	550
50	0.10	9	TO 220	BUZ71	14	40	3	650
50	0.10	9	ISOWATT 220	BUZ71 F I	12	30	3	650
50	0.08	13	TO 220	BUZ10	20	70	8	700 §
50	0.04	15	TO 220	BUZ11	30	75	4	2000
50	0.04	15	ISOWATT 220	BUZ11 F I	20	35	4	2000
50	0.033	20	TO 218	SGSP492	40	150	10	2800
60	0.15	6	TO 220	MTP3055A	12	40	4.5	500
60	0.15	6	ISOWATT 220	MTP3055A F I	10	30	4.5	500
60	0.08	22	TO 218	IRFP153	34	150	13	3000
60	0.08	22	ISOWATT 218	IRFP153 F I	21	65	13	3000
60	0.055	22	TO 218	IRFP151	40	150	13	3000
60	0.055	22	ISOWATT 218	IRFP151 F I	26	65	13	3000
60	0.04	15	TO 220	BUZ11S2	30	75	4	2000
60	0.04	15	ISOWATT 220	BUZ11S2 F I	20	35	4	2000
60	0.028	20	TO 218	MTH40N06	40	150	10	5000
60	0.028	20	ISOWATT 218	MTH40N06 F I	26	65	10	5000

§ : Typical value.

NOTE : For internal schematic diagrams see following page.

(1) Also available in SOT 194 package for SMD.

POWER BIPOLAR

EPITAXIAL BASE HIGH GAIN DARLINGTONS

Epitaxial base - I_{CM} : 2 → 30 A, V_{CEO} : 45 → 180 V

NPN and PNP types

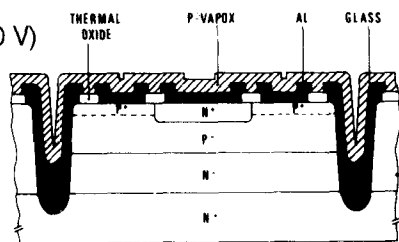
Medium V_{CEO} range (45 to 180 V)

Medium switching speed

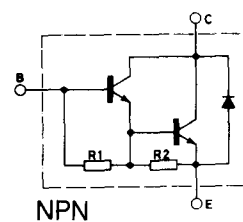
Medium f_T (2 to 20 MHz)

High ruggedness

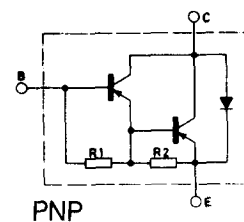
Monolithic Darlingtontons



Internal schematic diagrams



NPN



PNP

I_C (A)	V_{CBO} (V)	V_{CEO} (V)	P_{tot} (W)	Package	Type		h_{FE} @ I_C / V_{CE} min			V_{CEsat} @ I_C / I_B		
					NPN	PNP	(A)	(V)	(V)	(A)	(mA)	
2	45	45	40	TO 126	BD 675	BD 676	750	1.5	3	2.5	1.5	30
2	60	60	50	SOT 82 (1)	SGS 110	SGS 115	1000	1	4	2.5	2	8
2	60	60	50	TO 220	TIP 110	TIP 115	1000	1	4	2.5	2	8
2	80	80	50	SOT 82 (1)	SGS 111	SGS 116	1000	1	4	2.5	2	8
2	80	80	50	TO 220	TIP 111	TIP 116	1000	1	4	2.5	2	8
2	100	100	50	SOT 82 (1)	SGS 112	SGS 117	1000	1	4	2.5	2	8
2	100	100	50	TO 220	TIP 112	TIP 117	1000	1	4	2.5	2	8
4	40	40	40	TO 126	2N 6037	2N 6034	500	0.5	3	2	2	8
4	45	45	40	TO 126	BD 675 A	BD 676 A	750	2	3	2.8	2	40
4	60	60	40	TO 126	2N 6038	2N 6035	500	0.5	3	2	2	8
4	60	60	40	TO 126	BD 677	BD 678	750	1.5	3	2.5	1.5	30
4	60	60	40	TO 126	BD 677 A	BD 678 A	750	2	3	2.8	2	40
4	60	60	40	TO 126	MJE 800	MJE 700	100	4	3	3	4	40
4	60	60	40	TO 126	MJE 801	MJE 701	100	4	3	3	4	40
4	80	80	40	TO 126	2N 6039	2N 6036	500	0.5	3	2	2	8
4	80	80	40	TO 126	BD 679	BD 680	750	1.5	3	2.5	1.5	30
4	80	80	40	TO 126	BD 679 A	BD 680 A	750	2	3	2.8	2	40
4	80	80	40	TO 126	MJE 802	MJE 702	100	4	3	3	4	40
4	80	80	40	TO 126	MJE 803	MJE 703	100	4	3	3	4	40
4	100	100	40	TO 126	BD 681	BD 682	750	1.5	3	2.5	1.5	30
4	180	180	10	TO 39	BDW 91	BDW 92	1000	2	5	2	2	4
5	60	60	65	SOT 82 (1)	SGS 120	SGS 125	1000	3	3	2	3	12
5	60	60	65	TO 220	TIP 120	TIP 125	1000	3	3	2	3	12
5	80	80	65	SOT 82 (1)	SGS 121	SGS 126	1000	3	3	2	3	12
5	80	80	65	TO 220	TIP 121	TIP 126	1000	3	3	2	3	12
5	100	100	65	SOT 82 (1)	SGS 122	SGS 127	1000	3	3	2	3	12
5	100	100	65	TO 220	TIP 122	TIP 127	1000	3	3	2	3	12
6	45	45	50	TO 220	BDW 23	BDW 24	750	2	3	2	2	8
6	60	60	50	TO 220	BDW 23 A	BDW 24 A	750	2	3	2	2	8
6	60	60	60	SOT 82 (1)	BD 331	BD 332	750	3	3	2	3	12
6	80	80	50	TO 220	BDW 23 B	BDW 24 B	750	2	3	2	2	8
6	80	80	60	SOT 82 (1)	BD 333	BD 334	750	3	3	2	3	12
6	100	100	50	TO 220	BDW 23 C	BDW 24 C	750	2	3	2	2	8
6	100	100	60	SOT 82 (1)	BD 335	BD 336	750	3	3	2	3	12
6	140	140	60	TO 220	BDX 53 E	BDX 54 E	500	2	5	2	2	10
6	150	150	15	TO 39	BDX 53 S	BDX 54 S	500	2	5	2	2	8
6	160	160	60	TO 220	BDX 53 F	BDX 54 F	500	2	5	2	2	10
8	40	40	65	TO 220	2N 6386		1000	3	3	2	3	6
8	40	40	65	SOT 82 (1)	SGS 6386		1000	3	3	2	3	6
8	45	45	60	TO 220	BDX 53	BDX 54	750	3	3	2	3	12
8	60	60	60	TO 220	BDX 53 A	BDX 54 A	750	3	3	2	3	12
8	60	60	65	SOT 82 (1)	SGS 130	SGS 135	1000	4	4	2	4	16
8	60	60	70	TO 220	TIP 130	TIP 135	1000	4	4	2	4	16
8	60	60	75	TO 220	2N 6043	2N 6040	1000	4	4	2	4	16
8	60	60	80	TO 220	TIP 100	TIP 105	1000	3	4	2	3	6

(1) Also available in SOT 194 package for SMD.