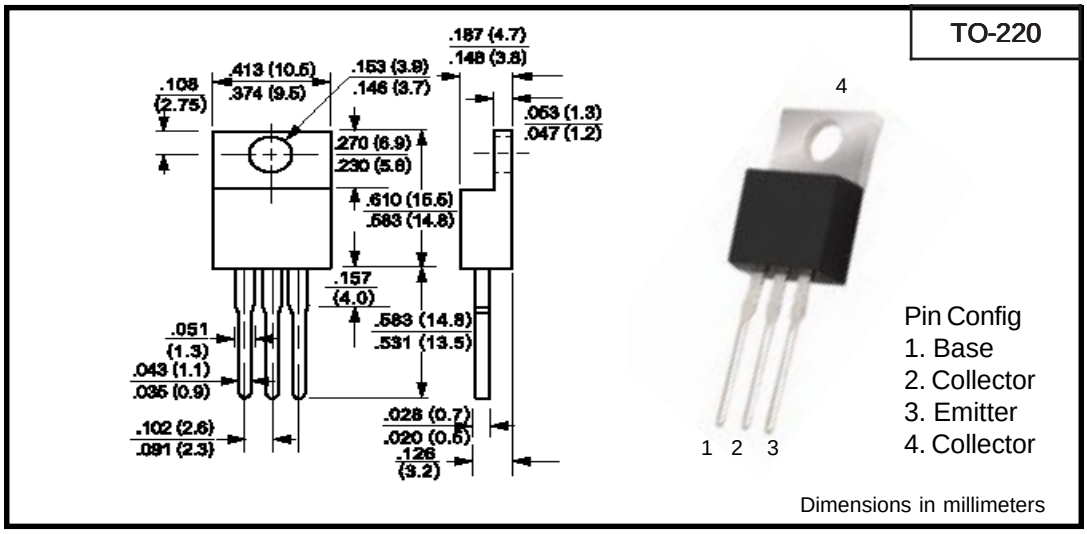
RECTRON SEMICONDUCTOR

TECHNICAL SPECIFICATION

See Below for Part #

TO-220 - Power Transistors and Darlingtons



Electrical Characteristics (Ta=25°C)

Part #	Polarity	V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	P_D (W)	I_C (A)	I_{CES} (uA) Max	@ V_{CE}	h_{FE} Min	h_{FE} Max	@ I_C (A)	V_{CE} (V)	$V_{CE\ (SAT)}$ (V) Max	$V_{BE\ (SAT)}$ (V) Max	@ I_C (A)	f_T (MHz) Min	@ I_C (mA)
2N5294	NPN	80	70	7	36	4	500[4]	50	30	120	0.5	4	1.0		0.5	0.8	200
2N5296	NPN	60	40	5	36	4	500[4]	50	30	120	1.0	4	1.0		1.0	0.8	200
2N5298	NPN	80	60	5	36	4	500[4]	50	20	80	1.5	4	1.0		1.5	0.8	200
2N6107	PNP	80	70	5	40	7	1000[1]	60	30 2.3	150	2.0 7.0	4 4	3.5 1.0		7.0 2.0	10	500
2N6109	PNP	60	50	5	40	7	1000[1]	40	30 2.3	150	2.5 7.0	4 4	3.5 1.0		7.0 2.5	10	500
2N6121	NPN	45	45	5	40	4	1000[1]	45	25 10	100	1.5 4.0	2 2	0.6 1.4		1.5 4.0	2.5	1000
2N6290	NPN	60	50	5	40	7	1000[1]	40	30 2.3	150	2.5 7.0	4 4	1.0 3.5		2.5 7.0	4	500
2N6292	NPN	80	70	5	40	7	1000[1]	60	30 2.3	150	2.0 7.0	4 4	1.0 3.5		2.0 7.0	4	500
BD239C	NPN	115	100	5	30	2	200	100	40 15		0.2 1.0	4 4	0.7		1.0	3	200
BD240C	PNP	115	100	5	30	2	200	100	40 15		0.2 1.0	4 4	0.7		1.0	3	200
BD241A	NPN	70	60	5	40	3	200	60	25 10		1.0 3.0	4 4	1.2		3.0	3	500
BD241C	NPN	115	100	5	40	3	200	100	25 10		1.0 3.0	4 4	1.2		3.0	3	500
BD242C	PNP	115	100	5	40	3	200	60	25 10		1.0 3.0	4 4	1.2		3.0	3[5]	200
BD243C	NPN	100	100	5	65	6	400	100	30 15		0.3 3.0	4 4	1.5		6.0	3	500

[1] I_{CE0} [2] I_{CBO} [3] V_{CES} [4] I_{CER} [5] f_T Typical Values

Part #	Polarity	V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	P_D (W)	I_C (A)	I_{CES} (uA) Max	@ V_{CE}	h_{FE} Min	h_{FE} Max	@ I_C (A)	V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ (V) Max	@ I_C (A)	f_T (MHz) Min	@ I_C (mA)
BD244C	PNP	100	100	5	65	8	400	100	30 15		0.3 3.0	4 4	1.5		6.0	3.0[5]	500
BD911	NPN	100	100	5	90	15	1000[1]	50	40 15 5	250 150	0.5 5.0 10.0	4 4 4	1.0 3.0	2.5	5.0 10.0	3.0	500
BD912	PNP	100	100	5	90	15	1000[1]	50	40 15 5	250 150	0.5 5. 10.0	4 4 4	1.0 3.0	2.5	5.0 10.0	3.0	500
BU407	NPN	330	150	6	60	7	100	200					1.0	1.3	5.0	10.0	500
C44C11	NPN	90[3]	80	5	30	4	10	90	100 20	220	0.2 2.0	1 1	0.5		1.0	50.0[5]	20
C44C8	NPN	70[3]	60	5	30	4	10	70	100 20	220	0.2 2.0	1 1	0.5		1.0	50.0[5]	20
C45C5	PNP	55[3]	45	5	30	4	10	50	40 20	120	0.2 1.0	1 1	0.5	1.3	1.0	40.0[5]	20
C45C8	PNP	70[3]	60	5	30	4	10	70	40 20	120	0.2 1.0	1 1	0.5		1.0	40.0[5]	20
C45C11	PNP	90[3]	80	5	30	4	10	90	40 20	120	0.2 1.0	1 1	0.5	1.3	1.0	40.0	20
CD13005	NPN	600	400	9	60	2	100[2]	600	8	40	0.5	5	0.5	1	0.5	4.0	100
CSA614Y	PNP	80	55	5	25	3	50[2]	50	120	240	0.5	5	0.5		1.0		
CSA940	PNP	150	150	5	25	1.5	10[2]	120	40	140	0.5	10	1.5		0.5	4.0[5]	500
CSA968	PNP	160	160	5	25	1.5	1.0[2]	160	70	240	0.1	5	1.5		0.5	100[5]	100
CSA1012Y	PNP	60	50	5	25	5	1.0[2]	50	120 30	240	1.0 3.0	1 1	0.4	1.2	3.0	80[5]	1000
CSB857	PNP	70	50	5	40	4	1.0[2]	50	60 35	320	1.0 0.1	4 4	1.0		2.0	15.0[5]	500
CSB1370E	PNP	60	60	5	30	3	10[2]	60	100	200	0.5	5	1.5	1.5	2.0	15.0[5]	
CSC2073	NPN	150	150	5	25	1.5	10[2]	120	40	140	0.5	10	1.5		0.5	4.0[5]	500
CSC2233	NPN	200	60	5	40	4	10[2]	170	30 20	150	1.0 4.0	5 5	1.0	1.5	4.0	8.0[5]	500
CSC2238	NPN	160	160	5	25	1.5	1.0[2]	160	70	240	0.1	5	1.5		0.5	100[5]	100
CSC3255S	NPN	80	60	5	40	10	100[2]	40	70	250	1.0	2	0.6		5.0	100[5]	1000
CSD313	NPN	60	60	5	30	3	100	20	40 40	320	0.1 1.0	2 2	1.0		2.0	8.0[5]	500
CSD88O	NPN	60	60	7	30	3	100[2]	60	60	300	0.5	5	1.0		3.0	3.0[5]	500
MJE2955T	PNP	70	60	5	75	10	700[1]	30	20 5	100	4.0 10.0	4 4	1.1 8.0		4.0 10.0	2.0[5]	500
MJE3055T	NPN	70	60	5	75	10	700[1]	30	20 5	100	4.0 10.0	4 4	1.1 80		4.0 10.0	2.0	500
MJE15028	NPN	120	120	5	50	8	100[1]	120	40 40 40 20		0.1 2.0 3.0 4.0	2 2 2 2	0.5		1.0	30.0	500
MJE15029	PNP	120	120	5	50	8	100[1]	150	40 40 40 20		0.1 2.0 3.0 4.0	2 2 2 2	0.5		1.0	30.0	500
MJE15030	NPN	150	150	5	50	8	100[1]	120	40 40 40 20		0.1 2.0 3.0 4.0	2 2 2 2	0.5		1.0	30.0	500
MJE15031	PNP	150	150	5	50	8	100[1]	150	40 40 40 20		0.1 2.0 3.0 4.0	2 2 2 2	0.5		1.0	30.0	500

[1] I_{CE0} [2] I_{CBO} [3] V_{CES} [4] I_{CER} [5] f_T Typical Values

Part #	Polarity	V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	P_D (W)	I_C (A)	I_{CES} (uA) Max	@ V_{CE}	h_{FE} Min	h_{FE} Max	@ I_C (A)	V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ (V) Max	@ I_C (A)	f_T (MHz) Min	@ I_C (mA)
TIP29C	NPN	100	100	5	30	1	200	100	40 15		0.2 1.0	4 4	0.7		1.0	3.0	200
TIP30C	PNP	100	100	5	30	1	200	100	40 15		0.2 1.0	4 4	0.7		1.0	3.0	200
TIP31C	NPN	100	100	5	40	3	200	100	10 25	50	3.0 1.0	4 4	1.2		3.0	3.0	500
TIP32	PNP	40	40	5	40	3	200	40	10 25	50	3.0 1.0	4 4	1.2		3.0	3.0	500
TIP32C	PNP	100	100	5	40	3	200	100	10 25	50	3.0 1.0	4 4	1.2		3.0	3.0	500
TIP41C	NPN	100	100	5	65	6	400	100	15 30	75	3.0 0.3	4 4	1.5		6.0	3.0	500
TIP42C	PNP	100	100	5	65	6	400	100	15 30	75	3.0 0.3	4 4	1.5		6.0	3.0	500
TIP47	NPN	350	250	5	40	1	1000	350	30 10	150	0.3 1.0	10 10	1.0		1.0	10.0	200
TIP49	NPN	450	350	5	40	1	1000	450	30 10	150	0.3 1.0	10 10	1.0		1.0	10.0	200
TIP50	NPN	500	400	5	40	1	1000	500	30 10	150	0.3 1.0	10 10	1.0		1.0	10.0	200
TIP102	NPN	100	100	5	80	8	50[1]	50	1000 200	20000	3.0 8.0	4 4	2.0 2.5		3.0 8.0		
TIP105	PNP	60	60	5	80	8	50[1]	30	1000 200	20000	3.0 8.0	4 4	2.0 2.5		3.0 8.0		
TIP106	PNP	80	80	5	80	8	50[1]	40	1000 200	20000	3.0 8.0	4 4	2.0 2.5		3.0 8.0		
TIP107	PNP	100	100	5	80	8	50[1]	50	1000 200	20000	3.0 8.0	4 4	2.0 2.5		3.0 8.0		
TIP110	NPN	60	60	5	50	2	2000[1]	30	1000 500		1.0 2.0	4 4	2.5		2.0		
TIP112	NPN	100	100	5	50	2	2000[1]	50	1000 500		1.0 2.0	4 4	2.5		2.0		
TIP115	PNP	60	60	5	50	2	2000[1]	30	1000 500		1.0 2.0	4 4	2.5		2.0		
TIP116	PNP	80	80	5	50	2	2000[1]	40	1000 500		1.0 2.0	4 4	2.5		2.0		
TIP117	PNP	100	100	5	50	2	2000[1]	50	1000 500		1.0 2.0	4 4	2.5		2.0		
TIP120	NPN	60	60	5	65	5	500[1]	30	1000 1000		0.5 3.0	3 3	2.0 4.0		3.0 5.0		
TIP121	NPN	80	80	5	65	5	500[1]	40	1000 1000		3.0 0.5	3 3	2.0 4.0		3.0 5.0		
TIP122	NPN	100	100	5	65	5	500[1]	50	1000 1000		3.0 0.5	3 3	2.0 4.0		3.0 5.0		
TIP125	PNP	60	60	5	65	5	500[1]	30	1000 1000		0.5 3.0	3 3	2.0 4.0		3.0 5.0		
TIP126	PNP	80	80	5	65	5	500[1]	40	1000 1000		3.0 0.5	3 3	2.0 4.0		3.0 5.0		
TIP127	PNP	100	100	5	65	5	500[1]	50	1000 1000		3.0 0.5	3 3	2.0 4.0		3.0 5.0		
TIP132	NPN	100	100	5	70	8	200[2]	100	5000		1.0	4	2.0		4.0		

[1] I_{CE0} [2] I_{CBO} [3] V_{CES} [4] I_{CER} [5] f_T Typical Values