5 Metal Can

Metal Can Product Variations

TO-5, TO-39 and TO-18 can be supplied with several variations from standard.

Lead Finish

The standard lead finishes supplied by Texas Instruments are gold or tin coated and unless otherwise stated either of these finishes will be supplied depending on the current stock/availability situation.

To specify tin leads add suffix TP to the type number, i.e. BCW 35TP.

To specify gold leads add suffix GP i.e. BCW35GP.

Lead Length

The standard lead length is 12,7mm (0,5in). Certain types are available with longer leads—38,1mm (1,5in) at a small extra charge.

Matching

Transistor Pairs are available with 5% and 10% matching on hfe (or hFE). These may be ordered by adding the suffix MP5 or MP10 to the basic type number. Price will depend on basic type and quantity requirement.

Low Level General Purpose Amplifiers

Device Type	Polarity	Case	Maximum ratings BV CBO V	BV CEO V	BV EBO V	ICM mA	hFE1 IC mA	hFE1 min.	hFE1 max.	hFE2 IC mA	hFE2 min.	hFE2 max.	fT min. MHz	VCE(sat) IC mA	VCE(sat) mV	Notes
BC107	NPN	TO18	50	45	6	300	2	110	450	0.01	40	—	150	10	250	AVAILABLE IN A, B and C hFE RANGES
BC108	NPN	TO18	35	25	6	300	2	110	800	0.01	40	—	150	10	250	Complementary to BC177, BC178, BC179
BC109	NPN	TO18	35	25	6	300	2	200	800	0.01	100	—	150	10	250	
BC177	PNP	TO18	50	45	6	300	2	60	300	0.01	40	—	150	10	300	AVAILABLE IN A, B and C hFE RANGES
BC178	PNP	TO18	35	25	6	300	2	80	400	0.01	40	—	150	10	300	Complementary to BC107, BC108, BC109
BC179	PNP	TO18	35	25	6	300	2	140	900	0.01	100	—	150	10	300	
BCY70	PNP	TO18	50	40	5	600	10	50	—	0.1	40	—	200	10	250	
BCY71	PNP	TO18	45	45	5	250	10	100	600	0.01	40	—	200	10	250	
BCY72	PNP	TO18	25	25	5	360	10	50	—	1.0	40	—	200	10	250	
BCW34	NPN	TO18	60	45	5	600	10	100	—	0.01	50	250	150	10	100	Extensively specified professional
BCW35	PNP	TO18	60	45	5	600	10	100	—	0.01	50	250	150	10	100	Complementary pairs
BC325	PNP	TO18	60	60	6	50	1	175	—	0.01	40	120	60	1	350	Complementary to 2N2483 — Low Noise
BC326	PNP	TO18	60	60	6	50	1	250	—	0.01	100	500	60	1	350	Complementary to 2N2484 — Low Noise
2N929	NPN	TO18	45	45	5	30	0.5	60	—	0.01	40	120	30	10	1000	
2N930	NPN	TO18	45	45	5	30	0.5	150	—	0.01	100	300	30	10	1000	
2N2483	NPN	TO18	60	60	6	50	1	175	—	0.01	40	120	60	1	350	Complementary to BC325 — Low Noise
2N2484	NPN	TO18	60	60	6	50	1	250	—	0.01	100	500	60	1	350	Complementary to BC326 — Low Noise
2N3962	PNP	TO18	60	60	6	200	1	100	450	0.01	100	300	40	10	250	Low Noise Min. hFE 60 at 1μA
2N3963	PNP	TO18	80	80	6	200	1	100	450	0.01	100	300	40	10	250	
2N3964	PNP	TO18	45	45	6	200	1	250	600	0.01	250	500	50	10	250	Very Low Noise Min. hFE 180 at 1μA
2N3965	PNP	TO18	60	60	6	200	1	250	600	0.01	250	500	50	10	250	
2N4104	NPN	TO18	60	60	10	50	1	500	—	0.01	400	800	90	1	300	NF<1.0 dB at 10 kHz Min. hFE 150 at 1μA

High Current Amplifiers and Switches

Device Type	Polarity	Case	Maximum ratings BV CBO V	BV CEO V	BV EBO V	ICM mA	hFE1 IC mA	hFE1 min.	hFE1 max.	hFE2 IC mA	hFE2 min.	hFE2 max.	fT min. MHz	VCE(sat) IC mA	VCE(sat) V	Notes
BFT32	NPN	TO39	80	60	5	3000	150	50	300	1000	30	—	100	1000	.55	Complementary to BFT35 series
BFT33	NPN	TO39	100	80	5	3000	150	50	250	1000	30	—	100	1000	.65	
BFT34	NPN	TO39	120	100	5	3000	150	50	200	1000	30	—	100	1000	.75	
BFT35	PNP	TO39	80	60	5	3000	150	50	300	1000	30	—	100	1000	.55	Complementary to BFT32 series
BFT36	PNP	TO39	100	80	5	3000	150	50	250	1000	30	—	100	1000	.65	
BFT37	PNP	TO39	120	100	5	3000	150	50	200	1000	30	—	100	1000	.75	

Core Drivers

Device Type	Polarity	Case	Maximum ratings BV CBO V	BV CEO V	BV EBO V	ICM mA	hFE1 IC mA	hFE1 min.	hFE1 max.	hFE2 IC mA	hFE2 min.	hFE2 max.	fT min. MHz	VCE(sat) IC mA	VCE(sat) V	Max. ton ns	Max. ts ns	Max. toff ns	Notes
2N3724A	NPN	TO39	50	30	6	1200	100	60	150	1500	25	—	300	100	0.20	35	50	60	Guaranteed switching time at 1 amp
2N3725A	NPN	TO39	80	50	6	1200	100	60	150	1500	20	—	300	100	0.26	35	50	60	
2N3244	PNP	TO39	40	40	5	1000	500	50	150	750	25	—	175	150	0.3	—	140	—	

Very High Voltage Amplifiers

Device Type	Polarity	Case	Maximum ratings BV CBO V	BV CEO V	BV EBO V	ICM mA	hFE1 IC mA	hFE1 min.	hFE1 max.	hFE2 IC mA	hFE2 min.	hFE2 max.	fT typ MHz	VCE(sat) IC mA	VCE(sat) V max	Notes
BF257	NPN	TO5	160	160	5	200	30	25	—				110	30	1.0	Designed as high voltage video amplifiers
BF258	NPN	TO5	250	250	5	200	30	25	—				110	30	1.0	
BF259	NPN	TO5	300	300	5	200	30	25	—				110	30	1.0	
BF336	NPN	TO5	185	180	5	100	30	20	—				80	30		Intended for Video Applications
BF337	NPN	TO5	250	200	5	100	30	20	—				80			
BF338	NPN	TO5	300	225	5	100	30	20	—				80			
BF177	NPN	TO5	115	60	5	100	15	20	—	20	20	—	120			
BF178	NPN	TO5	160	115	5	100	20	20	—	30	20	—	120			
BF179	NPN	TO5	250	115	5	100	20	20	—	—	—	—	120			
BFT57	NPN	TO18	160	160	5	200	30	25	—	—	—	—	110	30	1.0	
BFT58	NPN	TO18	250	250	5	200	30	25	—	—	—	—	110	30	1.0	
BFT59	NPN	TO18	300	300	5	200	30	25	—	—	—	—	110	30	1.0	
BC312	NPN	TO5	100	100	5	150	1	40	—	30	50	200	100	50	2.0	
BD150A	NPN	TO5	300	220	6	500	40	20	—	80	20	—		80	1.0	Designed as High Current Line Drivers
BD150B	NPN	TO5	250	150	6	500	40	20	—	80	20	—		80	1.0	
BD150C	NPN	TO5	200	150	6	500	40	20	—	80	20	—		80	1.0	
2N3440	NPN	TO5	300	250	7	1000	20	40	160	—	—	—	15*	50	0.5	For High Current Applications
2N3439	NPN	TO5	450	350	7	1000	20	40	160	—	—	—	15*	50	0.5	
BFQ35	PNP	TO5	160	160	5	200	10	50	400	50	10	—	80	20	0.5	BF257/8/9 Complementary Types
BFQ36	PNP	TO5	250	250	5	200	10	40	350	50	10	—	80	20	0.5	
BFQ37	PNP	TO5	300	300	5	200	10	30	300	50	10	—	80	20	0.5	

Complementary Pairs

Medium Current Amplifiers & Switches

NPN	TO5	PNP
2N2218		2N2904
2N2218A		2N2904A
2N2219		2N2905
2N2219A		2N2905A

Low level G.P. Amplifiers

NPN	TO18	PNP
BC107		BC177
BC108		BC178
BC109		BC179

High Current Amplifiers

NPN	TO5	PNP
BFT39		BFT79
BFT40		BFT80
BFT41		BFT81
BFY50		BFT60
BFY51		BFT61
BFY52		BFT62

NPN	TO18	PNP
2N2221		2N2906
2N2221A		2N2906A
2N2222		2N2907
2N2222A		2N2907A

NPN	TO18	PNP
BC325		2N2483
BC326		2N2484
BCW34		BCW35

NPN	TO5	PNP
BC142		BC143
BC301		BC303
BC302		BC304
BFT32		BFT35
BFT33		BFT36
BFT34		BFT37