

Core Drivers

Device Type	Polarity	Case	Maximum ratings				hFE1			hFE2			ft min. MHz	VCE(sat)		Max. ton ns	Max. ts ns	Max. toff ns	Notes
			BV CBO	BV CEO	BV EBO	ICM	IC mA	min.	max.	IC mA	min.	max.		IC mA	V				
			V	V	V	mA													
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	—	

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

Very High Voltage Amplifiers

Device Type	Polarity	Case	Maximum ratings				hFE1			hFE2			ft typ MHz	VCE(sat)		Notes
			BV CBO	BV CEO	BV EBO	ICM	IC mA	min.	max.	IC mA	min.	max.		IC mA	V	
			V	V	V	mA										
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	} Intended for Video Applications
BF336	NPN	TO5	185	180	5	100	30	20	—	—	—	—	80	30	—	
BF337	NPN	TO5	250	200	5	100	30	20	—	—	—	—	80	—	—	
BF338	NPN	TO5	300	225	5	100	30	20	—	—	—	—	80	—	—	
BF177	NPN	TO5	115	80	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	} Designed as High Current Line Drivers
BD150A	NPN	TO5	300	220	6	500	40	20	—	80	20	—	80	1.0	1.0	
BD150B	NPN	TO5	250	150	6	500	40	20	—	80	20	—	80	1.0	1.0	
BD150C	NPN	TO5	200	150	6	500	40	20	—	80	20	—	80	1.0	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	

Small Signal Transistors

BS Type Number	Commercial Equivalent	Case Outline	Polarity	Absolute Maximum Rating			hFE at Collector Current			Min. ft MHz	Comments
				V _{CB} V	V _{CE} V	V _{EB} V	hFE min.	hFE max.	I _C mA		
BS9360 F001	BFT32	TO5	NPN	80	60	5	50	300	150	50	} 3 Amp Capability Amplifier/Switch
BS9360 F001	BFT33	TO5	NPN	100	80	5	50	250	150	50	
BS9360 F001	BFT34	TO5	NPN	120	100	5	50	200	150	50	
BS9360 F002	BFT35	TO5	PNP	80	60	5	50	300	150	50	} 3 Amp Capability Amplifier/Switch
BS9360 F002	BFT36	TO5	PNP	100	80	5	50	250	150	50	
BS9360 F002	BFT37	TO5	PNP	120	100	5	50	200	150	50	
BS9360 F003	BFT29	TO18	NPN	90	80	5	50	250	100	100	} High Current Amplifier/Switch
BS9360 F003	BFT30	TO18	NPN	70	60	5	75	250	100	100	
BS9360 F003	BFT31	TO18	NPN	60	50	5	100	300	100	100	
BS9360 F004	BFT57	TO18	NPN	160	160	5	25	—	30	40	} Very High Voltage Amplifiers
BS9360 F004	BFT58	TO18	NPN	250	250	5	25	—	30	40	
BS9360 F004	BFT59	TO18	NPN	300	300	5	25	—	30	40	
BS9360 F005	BFT20	TO18	PNP	80	35	5	30	—	150	60	} General Purpose Amplifier
BS9360 F005	BFT21	TO18	PNP	60	30	5	40	—	150	60	
BS9360 F005	BFT22	TO18	PNP	40	20	5	60	—	150	60	
BS9360 F005	BFT69	TO18	PNP	90	80	5	50	250	100	100	} High Current Amplifier/Switch
BS9360 F005	BFT70	TO18	PNP	70	60	5	75	250	100	100	
BS9360 F005	BFT71	TO18	PNP	60	50	5	100	300	100	100	
BS9360 F014	2N3440	TO5	NPN	300	250	7	40	160	20	15	} Very High Voltage Amplifier/Switch
BS9361 F006	2N3053	TO5	NPN	60	40	5	50	250	150	100	
BS9365 F009	BCY70	TO18	PNP	50	40	5	50	—	10	250	} Low Level General Purpose Amplifiers and Switches
BS9365 F009	BCY71	TO18	PNP	45	45	5	100	—	10	200	
BS9365 F009	BCY72	TO18	PNP	25	25	5	50	—	10	200	
BS9365 F010	BFX29	TO5	PNP	60	60	5	50	—	10	100	} Medium Current Switches
BS9365 F011	BFX30	TO5	PNP	65	65	5	50	290	10	100	
BS9365 F012	BFY50	TO5	NPN	80	35	6	30	—	150	60	} High Current Amplifiers
BS9365 F012	BFY51	TO5	NPN	60	30	6	40	—	150	50	
BS9365 F012	RFY52	TO5	NPN	40	20	6	60	—	150	50	
BS9365 F112	BC107	TO18	NPN	50	45	6	110	450	2	150	} Low Level General Purpose Amplifiers
BS9365 F112	BC108	TO18	NPN	30	20	5	110	800	2	150	
BS9365 F112	BC109	TO18	NPN	30	20	5	200	800	2	150	
BS9365 F121	BFT39	TO5	NPN	90	80	5	50	250	100	100	} High Current Amplifiers
BS9365 F122	BFT40	TO5	NPN	70	60	5	75	250	100	100	
BS9365 F123	BFT41	TO5	NPN	60	50	5	100	300	100	100	
BS9365 F124	BFT60	TO5	PNP	80	35	6	30	—	150	60	} High Current Amplifiers
BS9365 F125	BFT61	TO5	PNP	60	30	6	40	—	150	50	
BS9365 F126	BFT62	TO5	PNP	40	20	6	60	—	150	50	
BS9365 F127	BFT79	TO5	PNP	90	80	5	50	250	100	100	} High Current Amplifiers
BS9365 F128	BFT80	TO5	PNP	70	60	5	75	250	100	100	
BS9365 F129	BFT81	TO5	PNP	60	50	5	100	300	100	100	
BS9365 F134	BCW34	TO18	NPN	60	45	5	100	350	10	150	} Complementary Low Noise Amplifiers
BS9365 F135	BCW35	TO18	PNP	60	45	5	100	350	10	150	
BS9365 F136	BC177	TO18	PNP	50	45	6	60	300	2	150	} Low Level General Purpose Amplifiers
BS9365 F136	BC178	TO18	PNP	35	25	6	80	400	2	150	
BS9365 F136	BC179	TO18	PNP	35	25	6	140	900	2	150	
BS9365 F168	BF257	TO5	NPN	160	160	5	25	—	30	40	} Very High Voltage Amplifiers
BS9365 F168	BF258	TO5	NPN	250	250	5	25	—	30	40	
BS9365 F168	BF259	TO5	NPN	300	300	5	25	—	30	40	
BS9365 F184	2N4036	TO5	PNP	90	65	7	40	140	150	60	
BS9365 F184	2N4037	TO5	PNP	60	40	7	50	250	150	60	
BS9365 F185	2N4030	TO5	PNP	60	60	5	40	120	100	100	} Medium Power Amplifier/Switch Specified to 1A
BS9365 F185	2N4031	TO5	PNP	80	80	5	40	120	100	100	
BS9365 F185	2N4032	TO5	PNP	60	60	5	100	300	100	150	
BS9365 F185	2N4033	TO5	PNP	80	80	5	100	300	100	150	
BS9365 F190	2N4026	TO18	PNP	60	60	5	40	120	100	100	
BS9365 F190	2N4027	TO18	PNP	80	80	5	40	120	100	100	} Medium Power Amplifier/Switch Specified to 1A
BS9365 F190	2N4028	TO18	PNP	60	60	5	100	300	100	150	
BS9365 F190	2N4029	TO18	PNP	80	80	5	100	300	100	150	