



■ Power Transistors (Molded types)

High speed switching transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C	V _{CE}	ton	tstg	tf		
						Amps.	Volts	μsec.	μsec.	μsec.		
2SC2438	150	80	7	50	60	1	1	0.5	2.5	0.3	TO-220AB	2.0
2SC2767	250	200	5	40	20	1	5	1.0	2.0	1.0	TO-220AB	2.0
2SC2768	250	200	6	40	20	1	5	1.0	2.0	1.0	TO-220AB	2.0
2SC2769	250	200	10	100	20	2	5	0.8	2.0	0.5	TO-3P	5.5
2SC2944	250	200	15	100	20	2	5	0.8	1.5	0.4	TO-3P	5.5
2SC2626	400	300	15	80	10	6	5	0.8	2.0	0.8	TO-3P	5.5
2SC2929	450	400	3	40	20	0.5	5	1.5	2.0	0.8	TO-220AB	2.0
2SC2542	450	400	5	40	10	2	5	1.0	2.0	1.0	TO-220AB	2.0
2SC3723	450	400	5	40	10	2	5	1.0	2.5	0.5	TO-220AB	2.0
2SC3317	500	400	5	40	10	2	5	0.5	1.5	0.15	TO-220AB	2.0
2SC4242	450	400	7	40	10	4	5	1.0	2.5	0.5	TO-220AB	2.0
2SC4622	500	400	7	50	10	4	5	1.0	2.5	0.5	TO-220AB	2.0
2SC2625	450	400	10	80	10	4	5	1.0	2.0	1.0	TO-3P	5.5
ET405R	450	400	10	80	10	4	5	1.0	2.0	1.0	TO-3PF	6.0
2SC3318	500	400	10	80	10	5	5	0.5	1.5	0.15	TO-3P	5.5
ET400	500	400	10	80	10	5	5	0.5	1.5	0.15	TO-3PF	6.0
2SC3320	500	400	15	80	10	6	5	0.5	1.5	0.15	TO-3P	5.5
ET401R	500	400	15	80	10	6	5	0.5	1.5	0.15	TO-3PF	6.0
2SC3047	850	500	6	40	15	0.5	5	1.0	3.0	1.0	TO-220AB	2.0
ET206	850	500	10	80	15	1	5	1.0	3.5	1.0	TO-3P	5.5

Ultra high β transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C	V _{CE}	ton	tstg	tf		
						Amps.	Volts	μsec.	μsec.	μsec.		
2SD1158	80	50	8	40	250	1	5	0.5	3.0	0.8	TO-220AB	2.0
2SD1118	80	50	10	50	300	1	5	0.5	3.0	0.8	TO-220AB	2.0
2SD1128	150	100	5	30	700	1	4	-	-	-	TO-220AB	2.0
2SD923	150	100	10	80	700	3	4	-	-	-	TO-3P	5.5
2SD982	200	180	5	40	700	1	4	-	-	-	TO-220AB	2.0
2SD921	200	180	5	80	700	1	4	-	-	-	TO-3P	5.5

Letter symbols

V_{CB0}: Collector-to-base voltage (Emitter open)

V_{CEO}: Collector-to-emitter voltage (Base open)

V_{CEO (sus)}: Collector-to-emitter sustaining voltage (Base open)

V_{CEx (sus)}: Collector-to-emitter sustaining voltage (Base reverse bias)

I_{C (cont)}: Collector-current (continuous)

P_C: Maximum power dissipation

h_{FE}: DC current gain

t_{on}: Turn-on time

t_{stg}: Storage time

t_f: Fall time

■ Power Transistors (Molded types)

Power darlington transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	ton μsec.	tstg μsec.	tf μsec.		
2SD833	60	60	7	40	4000	3	3	-	-	-	TO-220AB	2.0
2SD916	60	60	7	30	800	3	1.5	-	-	-	TO-220AB	2.0
ET378	100	100	10	80	1000	6	2	-	-	-	TO-3P	5.5
2SD834	250	200	4	25	1500	2	2	1.7	15.0	18.0	TO-220AB	2.0
2SD1073	300	250	4	60	1000	2	2	-	-	-	TO-220AB	2.0
2SD835	400	400	6	40	400	4	1.5	1.0	12.0	6.0	TO-220AB	2.0
2SD1072	450	450	5	60	500	3	1.5	1.5	12.0	6.0	TO-220AB	2.0
2SD1071	450	300 *	6	40	500	4	2	-	-	-	TO-220AB	2.0
ET375	650	450	15	80	100	15	5	1.0	12.0	2.0	TO-3P	5.5
ET190	600	600	8	80	200	5	5	1.5	15.0	1.5	TO-3P	5.5
ET191	600	600	12	100	100	12	5	1.5	10.0	2.0	TO-3P	5.5

* V_Z

High current switching transistors

Device type	V _{CB0}	V _{CEO} (sus)	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	ton μsec.	tstg μsec.	tf μsec.		
ET188	400	300	100	600	200	100	5	2.0	12.0	3.0	BBT II	145

High speed switching transistors for ringing choke converter

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	ton μsec.	tstg μsec.	tf μsec.		
2SC4273	500	400	5	40	25	0.5	5	1.0	2.5	0.5	TO-220AB	2.0
2SC4274	500	400	10	40	25	1	5	1.0	2.5	0.5	TO-220AB	2.0
2SC4275	500	400	10	80	25	1	5	1.0	2.5	0.5	TO-3P	5.5
2SC4509R	500	400	10	80	25	1	5	1.0	2.5	0.5	TO-3PF	6.0
2SC4276	500	400	15	80	25	2	5	1.0	2.5	0.5	TO-3P	5.5
2SC4510R	500	400	15	80	25	2	5	1.0	2.5	0.5	TO-3PF	6.0

Large SOA switching transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	ton μsec.	tstg μsec.	tf μsec.		
2SC2656	450	400	7	80	10	3	4	1.5	3.0	1.5	TO-3P	5.5

Low voltage high current switching transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	ton μsec.	tstg μsec.	tf μsec.		
2SD1049	120	80	25	80	20	25	5	1.0	2.5	0.4	TO-3P	5.5



Power Transistors (Molded types)

High voltage high speed switching transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	t _{on} μsec.	t _{stg} μsec.	t _f μsec.		
2SC3549	900	800	3	40	10	1	5	1.0	4.0	0.8	TO-220AB	2.0
2SC3550	900	800	3	80	10	1	5	1.0	4.0	0.8	TO-3P	5.5
2SC4603R	900	800	3	80	10	1	5	1.0	4.0	0.8	TO-3PF	6.0
2SC3551	900	800	5	80	10	2	5	1.0	4.0	0.8	TO-3P	5.5
2SC4538R	900	800	5	80	10	2	5	1.0	4.0	0.8	TO-3PF	6.0
2SC4419	900	800	6	100	10	2	5	1.0	4.0	0.8	TO-3P	5.5
2SC3030	900	800	7	80	8	3	5	0.5	2.5	0.8	TO-3P	5.5
2SD2047R	1500	1500 *	5	80	18	1	5	1.0	3.0	0.5	TO-3PF	6.0

* V_{CEs}

Buffer drive transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	t _{on} μsec.	t _{stg} μsec.	t _f μsec.		
2SC3047	850	500	6	40	15	0.5	5	1.0	3.0	1.0	TO-220AB	2.0
ET206	850	500	10	80	15	1	5	1.0	3.5	1.0	TO-3P	5.5
ET191	600	600	12	100	100	12	5	1.5	10.0	2.0	TO-3P	5.5
2SC3549	900	800	3	40	10	1	5	1.0	4.0	0.8	TO-220AB	2.0
2SC3551	900	800	5	80	10	2	5	1.0	4.0	0.8	TO-3P	5.5
ET383	1000	800	5	80	10	2	5	1.0	4.0	0.8	TO-3P	5.5

* V_{CEO(sus)}

General use transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	t _{on} μsec.	t _{stg} μsec.	t _f μsec.		
2SD847	40	40	15	80	40	5	2	1.0	2.0	1.0	TO-3P	5.5
2SD1157	80	50	4	25	250	0.5	5	0.5	3.0	0.8	TO-220AB	2.0
ET393R	150	100	10	80	700	3	4	-	-	-	TO-3PF	6.0
2SC2440	450	400	5	40	15	2	5	1.5	4.0	1.3	TO-220AB	2.0

Building block transistors

Device type	V _{CB0}	V _{CEO}	I _C	P _C	h _{FE} (Min.)			Switching time(Max.)			Package	Net mass Grams
	Volts	Volts	Cont. Amps.	Watts		I _C Amps.	V _{CE} Volts	t _{on} μsec.	t _{stg} μsec.	t _f μsec.		
ETN35-030	400	300	300	1500	150	300	5	2.0	12.0	1.2	BBT III	270
ETM36-030	400	320	200	1000	150	200	5	2.0	10.0	1.2	BBT III	270
ETN36-030	400	320	300	1500	150	300	5	2.0	10.0	1.2	BBT III	270
ETN01-055	600	550	200	1500	8	120	5	2.0	8.0	2.0	BBT III	270
ETN31-055	600	550 *	200	1500	70	200	5	2.0	12.0	3.0	BBT III	270

* V_{CEX(sus)}