

Device	Package type	Applications	Absolute maximum ratings						Electrical characteristics (T _a = 25 °C)							
			V _{CB0} (V)	V _{CEO} (V)	V _{EB0} (V)	I _c (A)	P _c (W)	T _j (°C)	I _{CB0} max @ V _{CB}		h _{FE} @ V _{CE} · I _c			f _T @ V _{CE} · I _c		
									I _{CB0} max (μA)	V _{CB} (V)	h _{FE}	V _{CE} (V)	I _c (A)	f _T (MHz)	V _{CE} (V)	I _c (A)
2SB1223	TO220ML	General-purpose driver	70	60	6	4.0	20.0§	150	100.0	40	5000	2	2.0	20	5	2.0
2SD1825	TO220ML	General-purpose driver	70	60	6	4.0	20.0§	150	100.0	40	5000	2	2.0	20	5	2.0
2SB1224	TO220ML	General-purpose driver	70	60	6	7.0	25.0§	150	100.0	40	5000	2	3.5	20	5	3.5
2SD1826	TO220ML	General-purpose driver	70	60	6	7.0	25.0§	150	100.0	40	5000	2	3.5	20	5	3.5
2SB1225	TO220ML	General-purpose driver	70	60	6	10.0	30.0§	150	100.0	40	5000	2	5.0	20	5	5.0
2SD1827	TO220ML	General-purpose driver	70	60	6	10.0	30.0§	150	100.0	40	5000	2	5.0	20	5	5.0
2SB1226	TO220ML	General-purpose driver	110	100	6	3.0	20.0§	150	100.0	80	4000	3	1.5	20	5	1.5
2SD1828	TO220ML	General-purpose driver	110	100	6	3.0	20.0§	150	100.0	80	4000	3	1.5	20	5	1.5
2SB1227	TO220ML	General-purpose driver	110	100	6	5.0	25.0§	150	100.0	80	4000	3	2.5	20	5	2.5
2SD1829	TO220ML	General-purpose driver	110	100	6	5.0	25.0§	150	100.0	80	4000	3	2.5	20	5	2.5
2SB1228	TO220ML	General-purpose driver	110	100	6	8.0	30.0§	150	100.0	80	4000	3	4.0	20	5	4.0
2SD1830	TO220ML	General-purpose driver	110	100	6	8.0	30.0§	150	100.0	80	4000	3	4.0	20	5	4.0
2SB912	TO3PB	General-purpose driver	70	60	6	10.0	60.0§	150	100.0	40	5000	2	5.0	20	5	5.0
2SD1229	TO3PB	General-purpose driver	70	60	6	10.0	60.0§	150	100.0	40	5000	2	5.0	20	5	5.0
2SB883	TO3PB	General-purpose driver	70	60	6	15.0	70.0§	150	100.0	40	5000	2	7.0	20	5	7.0
2SD1193	TO3PB	General-purpose driver	70	60	6	15.0	70.0§	150	100.0	40	5000	2	7.0	20	5	7.0
2SB913	TO3PB	General-purpose driver	110	100	6	8.0	60.0§	150	100.0	80	4000	3	4.0	20	5	4.0
2SD1230	TO3PB	General-purpose driver	110	100	6	8.0	60.0§	150	100.0	80	4000	3	4.0	20	5	4.0
2SB887	TO3PB	General-purpose driver	110	100	6	10.0	70.0§	150	100.0	80	4000	3	5.0	20	5	5.0
2SD1197	TO3PB	General-purpose driver	110	100	6	10.0	70.0§	150	100.0	80	4000	3	5.0	20	5	5.0
2SC3664	TO3PB	High-voltage switch	800	400	5	20.0	150.0§	150	1000.0	800	> 80	5	20.0	-	-	-
2SB1388	TO3PML	General-purpose driver	110	100	6	10.0	45.0§	150	100.0	80	4000	3	5.0	20	5	5.0
2SD2093	TO3PML	General-purpose driver	110	100	6	10.0	45.0§	150	100.0	80	4000	3	5.0	20	5	5.0
2SC4119	TO3PBL	High-voltage switch	1500	800	5	15.0	250.0§	150	100.0	800	> 25	5	15.0	-	-	-

* Ceramic mount (250 mm² × 0.8 mm)

† C-B Zener diode (60 ±10 V)

‡ C-B Zener diode (90 ±10 V)

§ T_a = 25 °CNotes: Listed by package type and arranged in order of increasing V_{CEO}, I_c. FLP packages have standard radial tapering

Transistors with Built-in Resistors

Device	Package type	Applications	Absolute maximum ratings						Electrical characteristics (T _a = 25 °C)							
			V _{CB0} (V)	V _{CEO} (V)	V _{EB0} (V)	I _c (mA)	P _c (mW)	T _j (°C)	I _{CB0} max @ V _{CB}		h _{FE} @ V _{CE} · I _c			f _T @ V _{CE} · I _c		
									I _{CB0} max (μA)	V _{CB} (V)	h _{FE}	V _{CE} (V)	I _c (mA)	f _T (MHz)	V _{CE} (V)	I _c (mA)
2SA1676	MCP	Switch (R1 = 47 kΩ, R2 = 47 kΩ)	50	50	10	100	150	150	0.1	40	> 50	5	5	200	10	5
2SC4396	MCP	Switch (R1 = 47 kΩ, R2 = 47 kΩ)	50	50	10	100	150	150	0.1	40	> 50	5	5	250	10	5
2SA1677	MCP	Switch (R1 = 22 kΩ, R2 = 22 kΩ)	50	50	10	100	150	150	0.1	40	> 50	5	5	200	10	5
2SC4397	MCP	Switch (R1 = 22 kΩ, R2 = 22 kΩ)	50	50	10	100	150	150	0.1	40	> 50	5	5	250	10	5
2SA1678	MCP	Switch (R1 = 10 kΩ, R2 = 10 kΩ)	50	50	10	100	150	150	0.1	40	> 50	5	10	200	10	5
2SC4398	MCP	Switch (R1 = 10 kΩ, R2 = 10 kΩ)	50	50	10	100	150	150	0.1	40	> 50	5	10	250	10	5
2SA1722	MCP	Switch (R1 = 2.2 kΩ, R2 = 10 kΩ)	50	50	6	100	150	150	0.1	40	> 50	5	10	200	10	5
2SC4498	MCP	Switch (R1 = 2.2 kΩ, R2 = 10 kΩ)	50	50	6	100	150	150	0.1	40	> 50	5	10	250	10	5
2SA1341	CP	Switch (R1 = 47 kΩ, R2 = 47 kΩ)	50	50	10	100	200	150	0.1	40	> 50	5	5	200	10	5
2SA1342	CP	Switch (R1 = 22 kΩ, R2 = 22 kΩ)	50	50	10	100	200	150	0.1	40	> 50	5	5	200	10	5
2SA1343	CP	Switch (R1 = 46 kΩ, R2 = 23 kΩ)	50	50	10	100	200	150	0.1	40	> 50	5	5	200	10	5
2SA1344	CP	Switch (R1 = 10 kΩ, R2 = 10 kΩ)	50	50	10	100	200	150	0.1	40	> 50	5	10	200	10	5
2SA1496	CP	Switch (R1 = 10 kΩ, R2 = N/A)	50	50	5	100	200	150	0.1	40	> 100	5	10	200	10	5
2SA1502	CP	Switch (R1 = 2.2 kΩ, R2 = 10 kΩ)	50	50	6	100	200	150	0.1	40	> 50	5	10	200	10	5
2SA1508	CP	Switch (R1 = 47 kΩ, R2 = N/A)	50	50	5	100	200	150	0.1	40	> 100	5	10	200	10	5
2SA1510	CP	Switch (R1 = 4.7 kΩ, R2 = N/A)	50	50	5	100	200	150	0.1	40	> 100	5	10	200	10	5
2SA1518	CP	Switch (R1 = 10 kΩ, R2 = 10 kΩ)	50	50	10	500	200	150	0.1	40	> 50	5	10	200	10	5
2SA1519	CP	Switch (R1 = 4.7 kΩ, R2 = 4.7 kΩ)	50	50	6	500	200	150	0.1	40	> 50	5	20	200	10	5
2SA1520	CP	Switch (R1 = 2.2 kΩ, R2 = 10 kΩ)	50	50	6	500	200	150	0.1	40	> 50	5	10	200	10	5
2SA1521	CP	Switch (R1 = 2.2 kΩ, R2 = 2.2 kΩ)	50	50	6	500	200	150	0.1	40	> 50	5	50	200	10	5
2SA1563	CP	Switch (R1 = 10 kΩ, R2 = 47 kΩ)	50	50	6	100	200	150	0.1	40	> 70	5	5	200	10	5
2SA1571	CP	Switch (R1 = N/A, R2 = 47 kΩ)	50	50	5	100	200	150	0.1	40	> 80	5	10	200	10	5
2SA1573	CP	Switch (R1 = N/A, R2 = 22 kΩ)	50	50	5	100	200	150	0.1	40	> 70	5	10	200	10	5
2SA1581	CP	Switch (R1 = 2.2 kΩ, R2 = N/A)	50	50	5	100	200	150	0.1	40	> 100	5	10	200	10	5
2SA1589	CP	Switch (R1 = 22 kΩ, R2 = N/A)	50	50	5	100	200	150	0.1	40	> 140	5	10	200	10	5
2SA1597	CP	Switch (R1 = 4.7 kΩ, R2 = 47 kΩ)	50	50	6	100	200	150	0.1	40	> 70	5	5	200	10	5
2SA1653	CP	Switch (R1 = 4.7 kΩ, R2 = 10 kΩ)	50	50	6	100	200	150	0.1	40	> 50	5	10	200	10	5
2SA1655	CP	Switch (R1 = 4.7 kΩ, R2 = 4.7 kΩ)	50	50	6	100	200	150	0.1	40	> 30	5	10	200	10	5
2SC3395	CP	Switch (R1 = 47 kΩ, R2 = 47 kΩ)	50	50	10	100	200	150	0.1	40	> 50	5	5	250	10	5
2SC3396	CP	Switch (R1 = 22 kΩ, R2 = 22 kΩ)	50	50	10	100	200	150	0.1	40	> 50	5	5	250	10	5