

Switching transistors

Type	Group	Structure	Fig. Nr.	Maximum ratings			Characteristics								
				P_{tot} at $t_{amb} = +45^\circ C$ W	I_C A	U_{CEO} V	U_{CEsat} at I_C V	I_C A	h_{FE} at I_C and U_{CE} mA	U_{CE} V	t_{on} ns	t_{off} at I_C and $I_{B1}; I_{B2}$ ns	I_C mA	$I_{B1}; I_{B2}$ mA	
BC 140	6	NPN	10	0.65	1	40	0.6	1	40-95	100	1	≤ 250	≤ 850	100	5; 5
	10	NPN	10	0.65	1	40	0.6	1	67-150	100	1	≤ 250	≤ 850	100	5; 5
	16	NPN	10	0.65	1	40	0.6	1	106-236	100	1	≤ 250	≤ 850	100	5; 5
BC 141	6	NPN	10	0.65	1	60	0.6	1	40-95	100	1	≤ 250	≤ 850	100	5; 5
	10	NPN	10	0.65	1	60	0.6	1	67-150	100	1	≤ 250	≤ 850	100	5; 5
	16	NPN	10	0.65	1	60	0.6	1	106-236	100	1	≤ 250	≤ 850	100	5; 5
BCY 58	VII	NPN	9	0.35	0.2	32	≤ 0.35	0.01	120-220	2	5	≤ 150	≤ 800	10	1; 1
	VIII	NPN	9	0.35	0.2	32	≤ 0.35	0.01	180-310	2	5	≤ 150	≤ 800	10	1; 1
	IX	NPN	9	0.35	0.2	32	≤ 0.35	0.01	250-460	2	5	≤ 150	≤ 800	10	1; 1
	X	NPN	9	0.35	0.2	32	≤ 0.35	0.01	380-630	2	5	≤ 150	≤ 800	10	1; 1
BCY 59 ○	VII	NPN	9	0.35	0.2	45	≤ 0.35	0.01	120-220	2	5	≤ 150	≤ 800	10	1; 1
	VIII	NPN	9	0.35	0.2	45	≤ 0.35	0.01	180-310	2	5	≤ 150	≤ 800	10	1; 1
	IX	NPN	9	0.35	0.2	45	≤ 0.35	0.01	250-460	2	5	≤ 150	≤ 800	10	1; 1
	X	NPN	9	0.35	0.2	45	≤ 0.35	0.01	380-630	2	5	≤ 150	≤ 800	10	1; 1
BCY 72		PNP	9	0.31	0.2 ⁵⁾	25	≤ 0.5	0.05	≥ 50	10	1	≤ 65	≤ 420	10	1; 1
BCY 78	VII	PNP	9	0.31	0.2	32	≤ 0.25	0.01	120-220	2	5	≤ 150	≤ 800	10	1; 1
	VIII	PNP	9	0.31	0.2	32	≤ 0.25	0.01	180-310	2	5	≤ 150	≤ 800	10	1; 1
	IX	PNP	9	0.31	0.2	32	≤ 0.25	0.01	250-460	2	5	≤ 150	≤ 800	10	1; 1
BCY 79 ○	VII	PNP	9	0.31	0.2	45	≤ 0.25	0.01	120-220	2	5	≤ 150	≤ 800	10	1; 1
	VIII	PNP	9	0.31	0.2	45	≤ 0.25	0.01	180-310	2	5	≤ 150	≤ 800	10	1; 1
	IX	PNP	9	0.31	0.2	45	≤ 0.25	0.01	250-460	2	5	≤ 150	≤ 800	10	1; 1
BFX 34 ○		NPN	10	0.77	5	60	≤ 1	5	40-150	2000	2	≤ 600	≤ 1200	5000	500; 500
BFY 56 A		NPN	10	0.71	1	55	≤ 0.25	0.15	40-150	150	1	≤ 225	≤ 800	150	7.5; 7.5
BSS 23		NPN	9	0.54	1	40	≤ 0.75	1	≥ 30	500	1	≤ 35	≤ 60	500	50; 50
BSS 42		NPN	10	0.89	1.5	120	≤ 0.8	1	≥ 25	1000	5	40	700	500	50; 50
BSS 44		PNP	10	0.77	5	60	≤ 1	5	≥ 40	2000	2	80	450	500	50; 50
BSS 45		NPN	10	0.77	5	80	≤ 1.4	5	≥ 30	2000	2	≤ 300	≤ 1000	≤ 1000	50; 50
BSS 46		PNP	10	0.77	5	80	≤ 1.4	5	≥ 30	2000	2	≤ 300	≤ 1000	≤ 1000	50; 50
BSV 15	6	PNP	10	3.2 ⁴⁾	1	40	≤ 1	0.5	40-100	100	1	≤ 500	≤ 650	100	5; 5
	10	PNP	10	3.2 ⁴⁾	1	40	≤ 1	0.5	63-160	100	1	≤ 500	≤ 650	100	5; 5
	16	PNP	10	3.2 ⁴⁾	1	40	≤ 1	0.5	100-250	100	1	≤ 500	≤ 650	100	5; 5
BSV 16	6	PNP	10	3.2 ⁴⁾	1	60	≤ 1	0.5	40-100	100	1	≤ 500	≤ 650	100	5; 5
	10	PNP	10	3.2 ⁴⁾	1	60	≤ 1	0.5	63-160	100	1	≤ 500	≤ 650	100	5; 5
	16	PNP	10	3.2 ⁴⁾	1	60	≤ 1	0.5	100-250	100	1	≤ 500	≤ 650	100	5; 5
BSV 60		NPN	10	6.2 ⁴⁾	3	40	≤ 0.9	2	50-150	2000	2	≤ 500	≤ 1000	1000	50; 50
BSV 69		NPN	10	3.0 ⁴⁾	1	40	≤ 0.75	1	≥ 30	500	1	≤ 35	≤ 60	500	50; 50
BSW 19	VI	PNP	9	0.26	0.1	30	≤ 0.3	0.05	40-120	10	1	≤ 150	≤ 800	10	1; 1
	A	PNP	9	0.26	0.1	30	≤ 0.3	0.05	100-300	10	1	≤ 150	≤ 800	10	1; 1
BSW 20	VI	PNP	9	0.23	0.1	30	≤ 0.3	0.05	40-120	10	1	≤ 150	≤ 800	10	1; 1
	A	PNP	9	0.23	0.1	30	≤ 0.3	0.05	100-300	10	1	≤ 150	≤ 800	10	1; 1
BSW 39	6	NPN	10	0.70	1	80	≤ 0.75	1	40-100	100	1	50	300	500	50; 50
	10	NPN	10	0.70	1	80	≤ 0.75	1	63-160	100	1	50	300	500	50; 50
	16	NPN	10	0.70	1	80	≤ 0.75	1	100-250	100	1	50	300	500	50; 50
BSW 40	6	PNP	10	0.70	1	80	≤ 0.75	1	40-100	100	1	50	300	500	50; 50
	10	PNP	10	0.70	1	80	≤ 0.75	1	63-160	100	1	50	300	500	50; 50
	16	PNP	10	0.70	1	80	≤ 0.75	1	100-250	100	1	50	300	500	50; 50
	25	PNP	10	0.70	1	80	≤ 0.75	1	160-400	100	1	50	300	500	50; 50
BSW 89	A	NPN	11	0.3	0.1	30	≤ 0.3	0.05	100-300	10	1	≤ 150	≤ 800	10	1; 1
	B	NPN	11	0.3	0.1	30	≤ 0.3	0.05	250-750	10	1	≤ 150	≤ 800	10	1; 1
BSX 38	A	NPN	9	0.345	0.1	30	≤ 0.3	0.05	100-300	10	1	≤ 150	≤ 800	10	1; 1
	B	NPN	9	0.345	0.1	30	≤ 0.3	0.05	250-750	10	1	≤ 150	≤ 800	10	1; 1
BSX 45	6	NPN	10	4.4 ⁴⁾	1	40	≤ 1	1	40-100	100	1	≤ 200	≤ 850	100	5; 5
	10	NPN	10	4.4 ⁴⁾	1	40	≤ 1	1	63-160	100	1	≤ 200	≤ 850	100	5; 5
	16	NPN	10	4.4 ⁴⁾	1	40	≤ 1	1	100-250	100	1	≤ 200	≤ 850	100	5; 5
BSX 46	6	NPN	10	4.4 ⁴⁾	1	60	≤ 1	1	40-100	100	1	≤ 200	≤ 850	100	5; 5
	10	NPN	10	4.4 ⁴⁾	1	60	≤ 1	1	63-160	100	1	≤ 200	≤ 850	100	5; 5
	16	NPN	10	4.4 ⁴⁾	1	60	≤ 1	1	100-250	100	1	≤ 200	≤ 850	100	5; 5
BSY 55		NPN	10	0.80	0.5	80	≤ 0.6	0.15	40-120	150	10	< 200	< 750	150	15; 15
BSY 56		NPN	10	0.80	0.5	80	≤ 0.6	0.15	100-300	150	10	< 200	< 750	150	15; 15

Remarks: ⁴⁾ $t_{case} = 45^\circ C$; ⁵⁾ I_{CM} ; ⁷⁾ $t_{case} \leq 25^\circ C$

Data book reference: B 2 D