

# PROFESSIONAL TRANSISTORS (continued)

## Fast and ultra fast switches

TYPE	POLARITY	$V_{CE0}$ (V)	$\tau_s$ (ns)	$t_{on}$ (ns)	$t_{off}$ (ns)	$h_{FE}$ min/typ	$V_{CEsat}$ (V)	$I_C$ (mA)	$I_C$ RANGE (mA)	PACKAGE
BFR 10	NPN	40	—	14	80	40/65	0.4	500	0.1-500	TO-39
BFR 11	NPN	40	—	14	80	40/65	0.4	500	0.1-500	TO-18
BFX 94A	NPN	30	—	14	80	35/62	0.4	500	0.1-500	TO-18
BFX 95A	NPN	30	—	14	80	75/125	0.4	500	0.1-500	TO-18
BFX 96A	NPN	30	—	14	80	35/62	0.4	500	0.1-500	TO-39
BFX 97A	NPN	30	—	14	80	75/125	0.4	500	0.1-500	TO-39
BSS 26	NPN	40	—	15	40	25/45	0.3	500	10-1000	TO-18
BSV 15	PNP	40	500	500	650	25/55	0.5	500	0.1-1000	TO-39
BSV 16	PNP	60	500	500	650	25/55	0.5	500	0.1-1000	TO-39
BSV 59	NPN	30	—	18	25	20/50	0.48	500	10-500	TO-18
BSV 77	NPN	40	—	15	40	30/50	0.35	500	10-1000	TO-39
BSV 89	NPN	10	13	12	18	25/45	0.3	100	10-100	TO-18
BSV 90	NPN	13.5	13	12	18	25/55	0.3	100	1-100	TO-18
BSV 91	NPN	15	13	12	18	25/45	0.35	100	10-100	TO-18
BSV 92	NPN	15	13	12	18	25/60	0.3	100	1-100	TO-18
BSV 95	NPN	50	—	15	40	20/50	0.35	500	10-1000	TO-39
BSX 12	NPN	12	13	10	15	30/60	0.24	300	10-1000	TO-39
BSX 19	NPN	15	5	7	12	20/60	0.3	10	0.1-100	TO-18
BSX 20	NPN	15	6	7	15	40/120	0.3	10	0.1-100	TO-18
BSX 26	NPN	15	8	9	15	25/55	0.18	100	1-500	TO-18
BSX 27	NPN	6	3	12	12	25/80	0.19	10	1-30	TO-18
BSX 28	NPN	12	6.5	9	13	12/50	0.3	100	0.1-100	TO-18
BSX 29	PNP	12	—	25	35	20/40	0.25	100	1-100	TO-18
BSX 30	NPN	30	—	22	22	30/63	0.23	150	10-500	TO-39
BSX 32	NPN	40	—	22	40	20/60	0.6	1000	1-1000	TO-39
BSX 36	PNP	40	—	17	70	30/85	0.18	150	0.01-500	TO-18
BSX 39	NPN	20	8	9	15	15/40	0.39	300	10-500	TO-18
BSX 45	NPN	40	—	2000	850	25/40	0.5	500	0.1-1000	TO-39
BSX 46	NPN	60	—	200	850	25/40	0.5	500	0.1-1000	TO-39
BSX 87	NPN	15	13	25	25	30/55	0.15	10	1-500	TO-18
BSX 87A	NPN	15	8	9	15	30/65	0.17	30	1-500	TO-18
BSX 88	NPN	15	25	40	75	30/45	0.2	10	0.5-100	TO-18
BSX 88A	NPN	20	10	18	50	35/55	0.15	100	0.5-100	TO-18
BSX 93	NPN	15	6	9	13	40/80	0.15	10	0.1-100	TO-18