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PRO ELECTRON SERIES (Bipolar—see page 5-37 for JFET)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC107	TO-18	50	45	6	15*	50	40 125 40	 500*	0.01 2 0.01	5 5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		10	1	04
BC107A	TO-18	50	45	6	15*	50	125	260*	2	5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		10	1	04
BC107B	TO-18	50	45	6	15*	50	40 240	 500*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		10	1	04
BC108	TO-18	30	20	5	15*	30	40 125	 900*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		10	1	04
BC108A	TO-18	30	20	5	15*	30	40 125	 260*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 100 2	4.5	150		10		10	1	04
BC108B	TO-18	30	20	5	15*	30	40 240	 500*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		10	1	04
BC108C	TO-18	30	20	5	15*	30	40 450	 900*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		10	1	04
BC109	TO-18	30	20	5	15*	30	100 240	 900*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		4	1	04
BC109B	TO-18	30	20	5	15*	30	100 240	 500*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		4	1	04
BC109C	TO-18	30	20	5	15*	30	100 450	 900*	0.01 2	5 5	0.6 0.2	 0.55	 0.7*	100 10 2	4.5	150		10		4	1	04
BC140	TO-39	80*	40	7	100*	60	40	250	100	1	1.0		1.8*	1A	25	50		50	850		2	14
BC140-6	TO-39	80*	40	7	100*	60	40	100	100	1	1.0		1.8*	1A	25	50		50	850		2	14
BC140-10	TO-39	80*	40	7	100*	60	63	160	100	1	1.0		1.8*	1A	25	50		50	850		2	14
BC140-16	TO-39	80*	40	7	100*	60	100	250	100	1	1.0		1.8*	1A	25	50		50	850		2	14
BC141	TO-39	100*	60	7	100*	60	40	250	100	1	1.0		1.8*	1A	25	50		50	850		2	14
BC141-6	TO-39	100*	60	7	100*	60	40	100	100	1	1.0		1.8*	1A	25	50		50	850		2	14
BC141-10	TO-39	100*	60	7	100*	60	63	160	100	1	1.0		1.8*	1A	25	50		50	850		2	14

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC143	TO-5	60	60	5	50	40	20		200	2	1.5		1.5	500 200	20	60		50				63
BC146-1	TO-92 (94)	20	20	4	50	40	100 80	200	2 0.2	1 0.2	1.5		1.5	500 200	20	60		50				04
BC146-2	TO-92 (94)	20	20	4	50	40	140 140	350	2 0.2	1 0.2	1.5		1.5	500 200	20	60		50				04
BC146-3	TO-92 (94)	20	20	4	50	40	280 280	550	2 0.2	1 0.2	1.5		1.5	500 200	20	60		50				04
BC160	TO-39	40*	5	40	100	40	40	250	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC160-6	TO-39	40*	5	40	100	40	40	100	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC160-10	TO-39	40*	5	40	100	40	63	160	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC160-16	TO-39	40*	5	40	100	40	100	250	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC161	TO-39	60*	5	60	100	60	40	250	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC161-6	TO-39	60*	5	60	100	60	40	100	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC161-10	TO-39	60*	5	60	100	60	63	160	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC161-16	TO-39	60*	5	60	100	60	100	250	100	1	1.0		1.7*	1A	30	50		50	650		2	67
BC167	TO-92 (94)	60*	45	6	15*	50	110 125	500*	2 2	5 5	0.2 0.6	0.55	0.7*	10 100 2	4.5	150		10		10	1	04
BC167A	TO-92 (94)	60*	45	6	15*	50	110 125	260*	2 2	5 5	0.2 0.6	0.55	0.7*	10 100 2	4.5	150		10		10	1	04
BC167B	TO-92 (94)	60*	45	6	15*	50	110 240	500*	2 2	5 5	0.2 0.6	0.55	0.7*	10 100 2	4.5	150		10		10	1	04
BC168	TO-92 (94)		20	5	15*	30	110 125	900*	2 2	5 5	0.2 0.6	0.55	0.70*	10 100 2	4.5	150		10		10	1	04
BC168A	TO-92 (94)		20	5	15*	30	110 125	260*	2 2	5 5	0.2 0.6	0.55	0.70*	10 100 2	4.5	150		10		10	1	04
BC168B	TO-92 (94)		20	5	15*	30	110 240	500*	2 2	5 5	0.2 0.6	0.56	0.70*	10 100 2	4.5	150		10		10	1	04

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC168C	TO-92 (94)		20	5	15*	30	110 450	 900*	2 2	5 5	0.2 0.6	 0.55	 0.70*	10 100 2	4.5	150		10		10	1	04
BC169	TO-92 (94)		20	5	15*	30	110 240	 900*	2 2	5 5	0.2 0.6	 0.55	 0.70*	10 100 2	4.5	150		10		4	1	04
BC169B	TO-92 (94)		20	5	15*	30	110 240	 500*	2 2	5 5	0.2 0.6	 0.55	 0.70*	10 100 2	4.5	150		10		4	1	04
BC169C	TO-92 (94)		20	5	15*	30	110 450	 900*	2 2	5 5	0.2 0.6	 0.55	 0.70*	10 100 2	4.5	150		10		4	1	04
BC177	TO-18	50	45	5	100	20	110 125	 500*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC177A	TO-18	50	45	5	100	20	110 125	 260*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC177B	TO-18	50	45	5	100	20	110 240	 500*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC177VI	TO-18	50	45	5	100	20	110 75	 150*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC178	TO-18	30	25	5	100	20	110 125	 900*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC178A	TO-18	30	25	5	100	20	110 125	 260*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC178B	TO-18	30	25	5	100	20	110 240	 500*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		10	1	71
BC179	TO-18	25	20	5	100	20	110 125	 900*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		4	1	71
BC179A	TO-18	25	20	5	100	20	110 125	 260*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		4	1	71

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC179B	TO-18	25	20	5	100	20	110 240	 500*	2 2	5 5	0.18		0.78 0.75* 1.0*	10 2 100	4.5	150		10		4	1	71
BC182	TO-92 (97)	60	50	5	15	50	40 80 125	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC182A	TO-92 (97)	60	50	5	15	50	40 80 125	 260*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC182B	TO-92 (97)	60	50	5	15	50	40 80 240	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC182L	TO-92 (94)	60	50	5	15	50	40 80 125	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC182LA	TO-92 (94)	60	50	5	15	50	40 80 125	 260*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC182LB	TO-92 (94)	60	50	5	15	50	40 80 240	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183	TO-92 (97)	45	30	5	15	30	40 80 125	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183A	TO-92 (97)	45	30	5	15	30	40 80 125	 260*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183B	TO-92 (97)	45	30	5	15	30	40 80 240	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183C	TO-92 (97)	45	30	5	15	30	40 80 450	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_{B}^{1} = I_{B}^{2} = 5$ mA. (3) $I_C = 200\ \mu A$; $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_{B}^{1} = I_{B}^{2} = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_{B}^{1} = I_{B}^{2} = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_{B}^{1} = I_{B}^{2} = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC183L	TO-92 (94)	45	30	5	15	30	40 80 125	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183LA	TO-92 (94)	45	30	5	15	30	40 80 125	 260*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183LB	TO-92 (94)	45	30	5	15	30	40 80 240	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC183LC	TO-92 (94)	45	30	5	15	30	40 80 450	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		10	1	04
BC184	TO-92 (97)	45	30	5	15	30	100 130 240	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		4	1	04
BC184B	TO-92 (97)	45	30	5	15	30	100 130 240	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		4	1	04
BC184C	TO-92 (97)	45	30	50	15	30	100 130 450	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		4	1	04
BC184L	TO-92 (94)	45	30	50	15	30	100 130 240	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		4	1	04
BC184LB	TO-92 (94)	45	30	50	15	30	100 130 240	 500*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		4	1	04
BC184LC	TO-92 (94)	45	30	50	15	30	100 130 450	 900*	0.01 100 2	5 5 5	0.6 0.25	 0.55	1.2 0.70*	100 10 2	5	150		10		4	1	04
BC204	TO-92 (92)	50	45	5	50	45	50	450	2	5	0.3			10						10	1	71
BC207	TO-92 (92)	50	45	5	15	40	110	450	2	5	0.25 0.6			10 100	6					10	1	04
BC212	TO-92 (97)	60	50	5	15	30	 60	 400*	 2	 5	0.6 0.25	 0.6	1.1 0.72*	100 10 2	10	200		10		10	1	63

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC212A	TO-92	60	50	5	15	30					0.6		1.1	100	10	200		10		10	1	63
	(97)										0.25			10								
							100	300*	2	5		0.6	0.72*	2								
BC212B	TO-92	60	50	5	15	30			0.01		0.6		1.1	100	10	200		10		10	1	63
	(97)								100		0.25			10								
							200	400*	2	5		0.6	0.72*	2								
BC212L	TO-92	60	50	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(94)						60	300	2	5	0.25			10								
							60*		2	5		0.6	0.72*	2								
BC212LA	TO-92	60	50	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(94)						60		2	5	0.25			10								
							100	300*	2	5		0.6	0.72*	2								
BC212LB	TO-92	60	50	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(94)						60		2	5	0.25			10								
							200	400*	2	5		0.6	0.72*	2								
BC213	TO-92	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(97)						60		2	5	0.25			10								
							80	600*	2	5		0.6	0.72*	2								
BC213A	TO-92	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(97)						60		2	5	0.25			10								
							100	300*	2	5		0.6	0.72*	2								
BC213B	TO-92	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(97)						60		2	5	0.25			10								
							200	400*	2	5		0.6	0.72*	2								
BC213C	TO-92	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(97)						60		2	5	0.25			10								
							350	600*	2	5		0.6	0.72*	2								
BC213L	TO-92	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(94)						80	400	2	5	0.25			10								
							80*		2	5		0.6	0.72*	2								
BC213LA	TO-92	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
	(94)						80		2	5	0.25			10								
							100	300*	2	5		0.6	0.72*	2								

TEST CONDITIONS:
(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, $f = 1$ kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, $f = 200$ kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, $f = 1$ kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, $f = WB$.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC213LB	TO-92 (94)	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
							80		2	5	0.25			10								
							200	400*	2	5		0.6	0.72*	2								
BC213LC	TO-92 (94)	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		10	1	63
							80		2	5	0.25			10								
							350	600*	2	5		0.6	0.72*	2								
BC214	TO-92 (97)	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							80		2	5	0.25			10								
							140	600*	2	5		0.6	0.72*	2								
BC214A	TO-92 (97)	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							80		2	5	0.25			10								
							100	300*	2	5		0.6	0.72*	2								
BC214B	TO-92 (97)	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							80		2	5	0.25			10								
							200	400*	2	5		0.6	0.72*	2								
BC214C	TO-92 (97)	45	30	5	15	30	40		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							80		2	5	0.25			10								
							350	600*	2	5		0.6	0.72*	2								
BC214L	TO-92 (94)	45	30	5	15	30	100		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							140	400	2	5	0.25			10								
							120		100	5		0.6	0.72*	2								
							140*		2	5												
BC214LB	TO-92 (94)	45	30	5	15	30	100		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							140		2	5	0.25			10								
							120		100	5		0.6	0.72*	2								
							200	400*	2	5												
BC214LC	TO-92 (94)	45	30	5	15	30	100		0.01	5	0.6		1.1	100	10	200		10		2	1	63
							140		2	5	0.25			10								
							120		100	5		0.6	0.72*	2								
							350	600*	2	5												
BC237-92	TO-92 (97)	50	45	6	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							125	500*	2	5		0.55	0.70*	2								
BC237A-92	TO-92 (97)	50	45	6	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							125	500*	2	5		0.55	0.70*	2								

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC237B-92	TO-92 (97)	50	45	6	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							240	500*	2	5		0.55	0.70*	2								
BC238-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							125	900*	2	5		0.55	0.70*	2								
BC238A-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							125	260*	2	5		0.55	0.70*	2								
BC238B-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							240	500*	2	5		0.55	0.70*	2								
BC238C-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					10	1	04
							140		2	5			0.6	100								
							120		100	5												
							450	900*	2	5		0.55	0.70*	2								
BC239-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					4	1	04
							140		2	5			0.6	100								
							120		100	5												
							240	900*	2	5		0.55	0.70	2								
BC239B-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					4	1	04
							140		2	5			0.6	100								
							120		100	5												
							240	500*	2	5		0.55	0.70	2								
BC239C-92	TO-92 (97)	30	20	5	50	20	100		0.01	5	0.25		0.77*	10	4.5					4	1	04
							140		2	5			0.6	100								
							120		100	5												
							450	900*	2	5		0.55	0.70	2								
BC261A	TO-18		45		50	45	100		0.01	5	0.25		0.9	10	4.5					6	3	71
							140		2	5	0.6			100								
							120		100	5												
							125	260*	2	5												

TEST CONDITIONS:
(1) $I_C = 200\,\mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\,\mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\,\mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\,\mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC261B	TO-18		45		50	45	100		0.01	5	0.25		0.9	10						6	3	71
							140		2	5	0.6			100								
							120		100	5												
							240	500*	2	5												
BC262A	TO-18		20	5	50	20	100		0.01	5	0.25		0.9	10						6	3	71
							140		2	5												
							120		100	5												
							125	260*	2	5	0.6			100								
BC262B	TO-18		20	5	50	20	100		0.01	5	0.25		0.9	10						6	3	71
							140		2	5												
							120		100	5												
							240	500*	2	5	0.6			100								
BC263A	TO-18		20	5	50	20	100		0.01	5	0.25		0.9	10						2.5	3	71
							140		2	5												
							120		100	5												
							125	260*	2	5	0.6			100								
BC263B	TO-18		20	5	50	20	100		0.01	5	0.25		0.9	10						2.5	3	71
							140		2	5												
							120		100	5												
							240	500*	2	5	0.6			100								
BC307-92	TO-92 (97)	50	45	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140		2	5			1.0*	100								
							120		100	5												
							75	500*	2	5			0.75*	2								
BC307A-92	TO-92 (97)	50	45	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140		2	5			1.0*	100								
							120		100	5												
							125	260*	2	5			0.75*	2								
BC307B-92	TO-92 (97)	50	45	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140		2	5			1.0*	100								
							120		100	5												
							240	500*	2	5			0.75*	2								
BC308-92	TO-92 (97)	30	25	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140		2	5			1.0*	100								
							120		100	5												
							125	900*	2	5			0.75*	2								
BC308A-92	TO-92 (97)	30	25	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140		2	5			1.0*	100								
							120		100	5												
							125	260*	2	5			0.75*	2								

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC308B-92	TO-92 (97)	30	25	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140	400	2	5			1.0*	100								
							120		100	5												
							240	500*	2	5			0.75*	2								
BC308C-92	TO-92 (97)	30	25	5	100	20	100		0.01	5	0.18		0.78	10						10	1	71
							140	400	2	5			1.0*	100								
							120		100	5												
							450	900*	2	5			0.75*	2								
BC309-92	TO-92 (97)	25	20	5	100	20	100		0.01	5	0.18		0.78	10						4	1	71
							140	400	2	5			1.0	100								
							120		100	5												
							125	900*	2	5			0.75	2								
BC309B-92	TO-92 (97)	25	20	5	100	20	100		0.01	5	0.18		0.78	10						4	1	71
							140		2	5			1.0	100								
							120		100	5												
							240	500*	2	5			0.75	2								
BC309C-92	TO-92 (97)	25	20	5	100	20	100		0.01	5	0.8		0.78	10						4	1	71
							140	400	2	5			1.0	100								
							120		100	5												
							450	900*	2	5			0.75*	2								
BC317	TO-92 (92)	50	45	6	30	20	110	450	2	5	0.2		0.77*	10	4					6	1	04
							125	500*	2	5	0.5			100								
												0.57	0.72*	2								
BC317A	TO-92 (92)	50	45	6	30	20	110	220	2	5	0.2		0.77*	10	4					6	1	04
							125	260*	2	5	0.5			100								
												0.57	0.72*	2								
BC317B	TO-92 (92)	50	45	6	30	20	200	450	2	5	0.2		0.77*	10	4					6	1	04
							240	500*	2	5	0.5			100								
												0.57	0.72*	2								
BC318	TO-92 (92)	30	20	5	30	20	110	800	2	5	0.2		0.77*	10	4					6	1	04
							125	900*	2	5	0.5			100								
												0.57	0.72*	2								
BC318A	TO-92 (92)	30	20	5	30	20	110	220	2	5	0.2		0.77*	10	4					6	1	04
							125	260*	2	5	0.5			100								
												0.57	0.72*	2								

TEST CONDITIONS:
(1) I_C = 200 µA, V_{CE} = 5V, f = 1 kHz. (2) I_C = 100 mA, V_{CC} = 20V, $I_B^1 = I_B^2$ = 5 mA. (3) I_C = 200 µA, V_{CE} = 2V, f = 1 kHz. (4) I_C = 100 mA, V_{CC} = 10V, $I_B^1 = I_B^2$ = 10 mA. (5) I_C = 10 mA, V_{CC} = 3V, $I_B^1 = I_B^2$ = 1 mA. (6) I_C = 100 µA, V_{CE} = 5V, f = 1 kHz. (7) I_C = 1 mA, V_{CE} = 10V, f = 200 kHz. (8) I_C = 1 mA, V_{CE} = 5V, f = 1 kHz. (9) I_C = 150 mA, V_{CC} = 6V, $I_B^1 = I_B^2$ = 15 mA. (10) I_C = 10 µA, V_{CE} = 5V, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	VCES* VCBO (V) Min	VCEO (V) Min	VEBO (V) Min	ICES* ICBO (nA) Max	@ VCB (V)	HFE hfe 1 kHz* Min	HFE hfe 1 kHz* Max	@ IC (mA)	& VCE (V)	VCE(SAT) (V) Max	VBE(SAT) & VBE(ON)* (V) Min	VBE(SAT) & VBE(ON)* (V) Max	@ IC (mA)	Cob (pF) Max	fT (MHz) Min	fT (MHz) Max	@ IC (mA)	toff (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC318B	TO-92 (92)	30	20	5	30	20	200 240	450 500*	2 2	5 5	0.2 0.5	0.57	0.77* 0.72*	10 100 2	4					6	1	04
BC318C	TO-92 (92)	30	20	5	30	20	100 450 450	800 900*	0.01 2 2	5 5 5	0.2 0.5	0.57	0.77* 0.72*	10 100 2	4					6	1	04
BC319	TO-92 (92)	30	20	5	30	20	40 200 240	800 900*	0.01 2 2	5 5 5	0.2 0.5	0.57	0.77* 0.72*	10 100 2	4					4	1	04
BC319B	TO-92 (92)	30	20	5	30	20	200 240	450 500*	2 2	5 5	0.2 0.5	0.57	0.77* 0.72*	10 100 2	4					4	1	04
BC319C	TO-92 (92)	30	20	5	30	20	100 420 450	800 900*	0.01 2 2	5 5 5	0.2 0.5	0.57	0.77* 0.72*	10 100 2	4					4	1	04
BC327	TO-92 (97)	50†	45	5	100†	45	40 100	600	300 100	1 1	0.7		12*	500 300	4					4	1	67
BC327-10	TO-92 (97)	50†	45	5	100†	45	40 63	160	300 100	1 1	0.7		1.2*	500 300	4					4	1	67
BC327-16	TO-92 (97)	50†	45	5	100†	45	40 100	250	300 100	1 1	0.7		1.2*	500 300	4					4	1	67
BC327-25	TO-92 (97)	50†	45	5	100†	45	40 160	400	300 100	1 1	0.7		1.2*	500 300	4					4	1	67
BC328	TO-92 (97)	30†	25	5	100†	25	40 100	600	300 100	1 1	0.7		1.2	500 300	4					4	1	67
BC328-10	TO-92 (97)	30†	25	5	100†	25	40 63	160	300 100	1 1	0.7		1.2	500 300	4					4	1	67
BC328-16	TO-92 (97)	30†	25	5	100†	25	40 100	250	300 100	1 1	0.7		1.2	500 300	4					4	1	67
BC328-25	TO-92 (97)	30†	25	5	100†	25	40 160	400	300 100	1 1	0.7		1.2	500 300	4					4	1	67
BC337	TO-92 (97)	50†	45	5	100†	45	40 100	600	300 100	1 1	0.7		1.2*	500 300	4					4	1	14
BC337-10	TO-92 (97)	50†	45	5	100†	45	40 63	160	300 100	1 1	0.7		1.2*	500 300	4					4	1	14
BC337-16	TO-92 (97)	50†	45	5	100†	45	40 100	250	300 100	1 1	0.7		1.2*	500 300	4					4	1	14
BC337-25	TO-92 (97)	50†	45	5	100†	45	40 160	400	300 100	1 1	0.7		1.2*	500 300	4					4	1	14

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC338	TO-92 (97)	30†	25	5	100†	25	40 100	 600	300 100	1 1	0.7		 1.2*	500 300	4					4	1	14
BC338-10	TO-92 (97)	30†	25	5	100†	25	40 63	 160	300 100	1 1	0.7		 1.2*	500 300	4					4	1	14
BC338-16	TO-92 (97)	30†	25	5	100†	25	40 100	 250	300 100	1 1	0.7		 1.2*	500 300	4					4	1	14
BC338-25	TO-92 (97)	30†	25	5	100†	25	40 160	 400	300 100	1 1	0.7		 1.2*	500 300	4					4	1	14
BC415	TO-92 (97)	45	35	5	15	30	40 120	 800	0.01 2	5 5	0.25 0.6			10 100						2	10	71
BC415A	TO-92 (97)	45	35	5	15	30	40 120	 220	0.01 2	5 5	0.25 0.6			10 100						2	10	71
BC415B	TO-92 (97)	45	35	5	15	30	100 180	 460	0.01 2	5 5	0.25 0.6			10 100						2	10	71
BC415C	TO-92 (97)	45	35	5	15	30	100 380	 800	0.01 2	5 5	0.25 0.6			10 100						2	10	71
BC485	TO-92 (97)	45	45	5	100	30	15 40 60	 400	1A 10 100	5 2 2	0.5		1.2 1.2*	500 300	4					4	1	14
BC485A	TO-92 (97)	45	45	5	100	30	15 40 100	 250	1A 10 100	5 2 2	0.5		1.2 1.2*	500 300	4					4	1	14
BC485B	TO-92 (97)	45	45	5	100	30	15 40 160	 400	1A 10 100	5 2 2	0.5		1.2 1.2*	500 300	4					4	1	14
BC485L	TO-92 (97)	45	45	5	100	30	15 40 60	 150	1A 10 100	5 2 2	0.5		1.2 1.2*	500 300	4					4	1	14
BC547	TO-92 (97)	50	45	6	10	20	 125	 500*	 2	 5	0.25 0.6	 0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC547A	TO-92 (97)	50	45	6	10	20	 125	 260*	 2	 5	0.25 0.6	 0.55	0.77* 0.70*	10 100 2	4.5					10	1	04

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC547B	TO-92 (97)	50	45	6	10	20	240	500*	2	5	0.25 0.6	0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC547C	TO-92 (97)	50	45	6	10	20	450	900*	2	5	0.25 0.6	0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC548	TO-92 (97)	30	20	5	10	20	125	900*	2	5	0.25 0.6	0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC548A	TO-92 (97)	30	20	5	10	20	125	260*	2	5	0.25 0.6	0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC548B	TO-92 (97)	30	20	5	10	20	240	500*	2	5	0.25 0.6	0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC548C	TO-92 (97)	30	20	5	10	20	450	900*	2	5	0.25 0.6	0.55	0.77* 0.70*	10 100 2	4.5					10	1	04
BC549	TO-92 (97)	30	20	5	10	20	240	900*	2	5	0.25 0.6	0.55	0.77* 0.70	10 100 2	4.5					4	1	04
BC549B	TO-92 (97)	30	20	5	10	20	240	500*	2	5	0.25 0.6	0.55	0.77* 0.70	10 100 2	4.5					4	1	04
BC549C	TO-92 (97)	30	20	5	10	20	450	900*	2	5	0.25	0.55	0.77* 0.70	10 100 2	4.5					4	1	04
BC550	TO-92 (97)	50	45	5	10	45	240	900*	2	5	0.25 0.6	0.55	0.77* 0.70	10 100 2						3	1	04
BC550B	TO-92 (97)	50	45	5	10	45	240	500*	2	5	0.25 0.6	0.55	0.77* 0.70	10 100 2						3	1	04
BC550C	TO-92 (97)	50	45	5	10	45	450	900*	2	5	0.25 0.6	0.55	0.77* 0.70	10 100 2						3	1	04
BC557	TO-92 (97)	50	45	5	100	20	75	260*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						10	1	71

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC557A	TO-92 (97)	50	45	5	100	20	125	260*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						10	1	71
BC557B	TO-92 (97)	50	45	5	100	20	240	500*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						10	1	71
BC558	TO-92 (97)	30	25	5	100	20	75	500*	2	5	0.3 0.65	0.6	0.82* 0.75	10 100 2						10	1	71
BC558A	TO-92 (97)	30	25	5	100	20	125	260*	2	5	0.3 0.65	0.6	0.82* 0.75	10 100 2						10	1	71
BC558B	TO-92 (97)	30	25	5	100	20	240	500*	2	5	0.3 0.65	0.6	0.82* 0.75	10 100 2						10	1	71
BC558C	TO-92 (97)	30	25	5	100	20	450	900*	2	5	0.3 0.65	0.6	0.82* 0.75	10 100 2						10	1	71
BC559	TO-92 (97)	25	20	5	100	20	125	500*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						4	1	71
BC559A	TO-92 (97)	25	20	5	100	20	125	260*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						4	1	71
BC559B	TO-92 (97)	25	20	5	100	20	240	500*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						4	1	71
BC559C	TO-92 (97)	25	20	5	100	20	450	900*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						4	1	71
BC560	TO-92 (97)	50	45	5	100	45	125	500*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						2	1	71

TEST CONDITIONS:

(1) I_C = 200 μA, V_{CE} = 5V, f = 1 kHz. (2) I_C = 100 mA, V_{CC} = 20V, $I_B^1 = I_B^2$ = 5 mA. (3) I_C = 200 μA, V_{CE} = 2V, f = 1 kHz. (4) I_C = 100 mA, V_{CC} = 10V, $I_B^1 = I_B^2$ = 10 mA. (5) I_C = 10 mA, V_{CC} = 3V, $I_B^1 = I_B^2$ = 1 mA. (6) I_C = 100 μA, V_{CE} = 5V, f = 1 kHz. (7) I_C = 1 mA, V_{CE} = 10V, f = 200 kHz. (8) I_C = 1 mA, V_{CE} = 5V, f = 1 kHz. (9) I_C = 150 mA, V_{CC} = 6V, $I_B^1 = I_B^2$ = 15 mA. (10) I_C = 10 μA, V_{CE} = 5V, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	VCES* VCBO (V) Min	VCEO (V) Min	VEBO (V) Min	ICES* ICBO (nA) Max	@ VCB (V)	HFE hfe 1 kHz* Min	HFE hfe 1 kHz* Max	@ IC (mA)	& VCE (V)	VCE(SAT) (V) Max	& VBE(SAT) VBE(ON)* (V) Min	VBE(SAT) VBE(ON)* (V) Max	@ IC (mA)	Cob (pF) Max	fT (MHz) Min	fT (MHz) Max	@ IC (mA)	toff (ns) Max	NF (dB) Max	Test Conditions	Process No.
BC560A	TO-92 (97)	50	45	5	100	45	125	260*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						2	1	71
BC560B	TO-92 (97)	50	45	5	100	45	240	500*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						2	1	71
BC560C	TO-92 (97)	50	45	5	100	45	450	900*	2	5	0.3 0.65	0.6	0.82* 0.75*	10 100 2						2	1	71
BCX58	TO-92 (97)		32	7	10	32	120 80 40	630 1000	2 10 100	5 1 1						125		10	800	6	3/4	04
BCX58-7	TO-92 (97)		32	7	10	32	120 80 40	220	2 10 100	5 1 1						125		10	800	6	3/4	04
BCX58-8	TO-92 (97)		32	7	10	32	20 180 120 45	310 400	0.01 2 10 100	5 5 1 1						125		10	800	6	3/4	04
BCX58-9	TO-92 (97)		32	7	10	32	40 250 160 60	460 630	0.01 2 10 100	5 5 1 1						125		10	800	6	3/4	04
BCX58-10	TO-92 (97)		32	7	10	32	100 380 240 60	630 1000	0.01 2 10 100	5 5 1 1						125		10	800	6	3/4	04
BCX59	TO-92 (97)		45	7			120 80 40	630 1000	2 10 100	5 1 1	0.5		1.0	100		125		10	800		5	04
BCX59-7	TO-92 (97)		45	7			120 80 40	220	2 10 100	5 1 1	0.5		1.0	100		125		10	800		5	04
BCX59-8	TO-92 (97)		45	7			20 180 120 45	310 400	0.01 2 10 100	5 5 1 1	0.5		1.0	100		125		10	800		5	04
BCX59-9	TO-92 (97)		45	7			40 250 160 60	460 630	0.01 2 10 100	5 5 1 1	0.5		1.0	100		125		10	800		5	04

PRO ELECTRON SERIES (Continued)

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Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BCX59-10	TO-92 (97)		45	7			100 380 240 60	 630 1000 	0.01 2 10 100	5 5 1 1	0.5		1.0	100		125		10	800		5	04
BCX78	TO-92 (97)		32	5			120 80 40	630 1000 	2 10 100	5 1 1	0.6		1.0	100								71
BCX78-7	TO-92 (97)		32	5			120 80 40	220 	2 10 100	5 1 1	0.6		1.0	100								71
BCX78-8	TO-92 (97)		32	5			30 180 120 45	 310 400 	0.01 2 10 100	5 5 1 1	0.6		1.0	100								71
BCX78-9	TO-92 (97)		32	5			40 250 160 60	 460 630 	0.01 2 10 100	5 5 1 1	0.6		1.0	100								71
BCX78-10	TO-92 (97)		32	5			100 380 240 60	 630 1000 	0.01 2 10 100	5 5 1 1	0.6		1.0	100								71
BCX79	TO-92 (97)		45	5			80 40 120	1000 630	10 100 2	1 1 5	0.6		1.0	100								71
BCX79-7	TO-92 (97)		45	5			120	220	2	5	0.6		1.0	100								71
BCX79-8	TO-92 (97)		45	5			120 45 30 180	400 310	10 100 0.01 2	1 1 5 5	0.6		1.0	100								71
BCX79-9	TO-92 (97)		45	5			160 60 40 250	630 460	10 100 0.01 2	1 1 5 5	0.6		1.0	100								71

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, $f = 1$ kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, $f = 200$ kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, $f = 1$ kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$ $V_{CE} = 5V$, $f = WB$.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BCX79-10	TO-92		45	5			240	1000	10	1	0.6		1.0	100								71
	(97)						60		100	1												
							100		0.01	5												
							380	630	2	5												
BCY56	TO-18	45	45	5	100	20	40		10	5		0.6	0.7*	2						5	1	04
							100	450	2	5												
							125	500*	2	5												
							40		0.01	5												
BCY57	TO-18	25	20	5	100	20	200		10	5		0.6	0.7*	2						5	1	04
							200	800	2	5												
							240	900*	2	5												
							100		0.01	5												
BCY58	TO-18		32	7	10†	32	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							125	700*	2	5		0.55	0.7*	2								
BCY58-7	TO-18		32	7	10†	32	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							125	250*	2	5		0.55	0.7*	2								
BCY58-8	TO-18		32	7	10†	32	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							175	350*	2	5		0.55	0.7*	2								
BCY58-9	TO-18		32	7	10†	32	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							250	500*	2	5		0.55	0.7*	2								
BCY58-10	TO-18		32	7	10†	32	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							350	700*	2	5		0.55	0.7*	2								
BCY59	TO-18		45	7	10†	45	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7		0.75	1.2	100							
							125	700*	2	5		0.55	0.7*	2								
BCY59-7	TO-18		45	7	10†	45	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							125	250*	2	5		0.55	0.7*	2								
BCY59-8	TO-18		45	7	10†	45	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100	100							
							175	350*	2	5		0.55	0.7*	2								
BCY59-9	TO-18		45	7	10†	45	40		100	1	0.35	0.6	0.85	10	6	125		10	800	6	4/1	04
							80	1000	10	1	0.7	0.75	1.2	100								
							250	500*	2	5		0.55	0.7*	2								

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BCY59-10	TO-18		45	7	10†	45	40 80 350	 1000 700*	100 10 2	1 1 5	0.35 0.7	0.6 0.75 0.55	0.85 1.2 0.7*	10 100 2	6	125		10	800	6	4/1	04
BCY70	TO-18	50	40	5	10	40	40 45 50 15		0.1 1 10 50	1 1 1 1	0.25 0.5	0.6	0.9 1.2	10 50	6	250		10	420	6	5/6	71
BCY71	TO-18	45	45	5	500	45	40 80 90 100	 600	0.01 0.1 1 10	1 1 1 1	0.25 0.5	0.6	0.9 1.2	10 50	6	200		10		2	6	71
BCY71A	TO-18	45	45	5	500	45	40 80 90 100	 600	0.01 0.1 1 10	1 1 1 1	0.25 0.5	0.6	0.9 1.2	10 50	6	300		10	420	2	6	71
BCY72	TO-18	25	25	5	500	20	40 50		1 10	1 1	0.25 0.5		 1.2	10 50	6	200		10	420	6	5/6	71
BD135	TO-126	45	45	5	100	30	25 40	 250	500 50	2 2	0.5		1.0*	500		50		50	420	6	5/6	37
BD135-6	TO-126	45	45	5	100	30	40 25	100	150 500	2 2	0.5			500		50		50				37
BD135-10	TO-126	45	45	5	100	30	63 25	160	150 500	2 2	0.5			500		50		50				37
BD135-16	TO-126	45	45	5	100	30	100 25	250	150 500	2 2	0.5			500		50		50				37
BD136	TO-126	45	45	5	100	30	40 25	250	150 500	2 2	0.5			500		50		50				77
BD136-6	TO-126	45	45	5	100	30	40 25	100	150 500	2 2	0.5			500		50		50				77
BD136-10	TO-126	45	45	5	100	30	63 25	160	150 500	2 2	0.5			500		50		50				77
BD136-16	TO-126	45	45	5	100	30	100 25	250	150 500	2 2	0.5			500		50		50				77
BD137	TO-126	60	60	5	100	30	40 25	160	150 500	2 2	0.5			500		50		50				38

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$ $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$ $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD137-6	TO-126	60	60	5	100	30	40 25	100	150 500	2 2	0.5			500		50		50				38
BD137-10	TO-126	60	60	5	100	30	63 25	160	150 500	2 2	0.5			500		50		50				38
BD138	TO-126	60	60	5	100	30	40 25	160	150 500	2 2	0.5			500		50		50				78
BD138-6	TO-126	60	60	5	100	30	40 25	100	150 500	2 2	0.5			500		50		50				78
BD138-10	TO-126	60	60	5	100	30	63 25	160	150 500	2 2	0.5			500		50		50				78
BD139	TO-126	80	80	5	100	30	25 40	 160	500 50	2 2	0.5		1.0*	500		50		50	420	6	5/6	39
BD139-6	TO-126	80	80	5	100	30	25 40	 100	500	2 2	0.5		1.0*	500		50		50				39
BD139-10	TO-126	80	80	5	100	30	25 40	 160	500 50	2 2	0.5		1.0*	500		50		50				39
BD140	TO-126	80	80	5	100	30	25 40	 160	500 50	2 2	0.5		1.0*	500		50		50	420	6	5/6	79
BD157	TO-126		250		100 µA	275	30	240	50	10												36
BD158	TO-126		300		100 µA	325	30	240	50	10												36
BD159	TO-126		350		100 µA	325	30	240	50	10												36
BD185	TO-126		30		100 µA	40	40 15		500 2A	2 2	1.0		1.2*	2A								4F
BD186	TO-126		30		100 µA	40	40 15		500 2A	2 2	1.0		1.5*	2A								5F
BD187	TO-126		45		100 µA	55	40 15		500 2A	2 2	1.0		1.5*	2A								4F
BD188	TO-126		45		100 µA	55	40 15		500 2A	2 2	1.0		1.5*	2A								5F
BD189	TO-126		60		100 µA	70	40 15		500 2A	2 2	1.0		1.5*	2A								4F
BD190	TO-126		60		100 µA	70	40 15		500 2A	2 2	1.0		1.5*	2A								5F
BD201	TO-220	60	45	5	10 µA	40	30 30 75	 235	3A 1A 500	2 2 1	1.0		1.5*	3A		3		300	420	6	5/6	4A
BD202	TO-220	60	45	5	10 µA	40	30 30 75	 235	3A 1A 500	2 2 1	1.0		1.5*	3A		3		300	420	6	5/6	5A

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD203	TO-220	60	60	5			30 30		2 1	2 2	1.0			3A		3		300				4A
BD204	TO-220	60	60	5	10 µA	40	30 30		2A 1A	2 1	1.0		1.5*	3A								5A
BD220	TO-220		70				30	120	500	4	1.0		1.1*	500								4F
BD221	TO-220		40				30	120	1A	4	1.0		1.3*	1A								4F
BD222	TO-220		60				20	80	1.5A	4	1.0		1.5*	1.5A								4F
BD223	TO-220	70					30	120	300	4	1.0		1.1*	500								5F
BD224	TO-220		40				30	120	1A	4	1.0		1.3*	1A								5F
BD225	TO-220		60				20	80	1.5A	4	1.0		1.5*	1.5A								5F
BD233	TO-126	45	45		100 µA	45	25 40		1A 150	2 2	0.6		1.3*	1A		3		250	420	6	5/6	4F
BD234	TO-126	45	45		100 µA	45	25 40		1A 150	2 2	0.6		1.3*	1A		3		250	420	6	5/6	5F
BD235	TO-126	60	60		100 µA	60	25 40		1A 150	2 2	0.6		1.3*	1A		3		250	420	6	5/6	4F
BD236	TO-126	60	60		100 µA	60	25 40		1A 150	2 2	0.6		1.3*	1A		3		250	420	6	5/6	5F
BD237	TO-126	80	80		100 µA	80	25 40		1A 150	2 2	0.6		1.3*	1A		3		250	420	6	5/6	4F
BD238	TO-126		80		100 µA	80	25 40		1A 150	2 2	0.6		1.3*	1A		3		250	420	6	5/6	5F
BD239	TO-220		45		200 µA*	45	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	4F
BD239A	TO-220		60		200 µA*	60	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	4F
BD239B	TO-220		80		200 µA*	80	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	4F
BD239C	TO-220		100		200 µA*	100	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	4F
BD240	TO-220		45		200 µA*	45	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	5F
BD240A	TO-220	80	60		200 µA*	60	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	5F

TEST CONDITIONS:

(1) I_C = 200 µA, V_{CE} = 5V, f = 1 kHz. (2) I_C = 100 mA, V_{CC} = 20V, $I_B^1 = I_B^2$ = 5 mA. (3) I_C = 200 µA, V_{CE} = 2V, f = 1 kHz. (4) I_C = 100 mA, V_{CC} = 10V, $I_B^1 = I_B^2$ = 10 mA. (5) I_C = 10 mA, V_{CC} = 3V, $I_B^1 = I_B^2$ = 1 mA. (6) I_C = 100 µA, V_{CE} = 5V, f = 1 kHz. (7) I_C = 1 mA, V_{CE} = 10V, f = 200 kHz. (8) I_C = 1 mA, V_{CE} = 5V, f = 1 kHz. (9) I_C = 150 mA, V_{CC} = 6V, $I_B^1 = I_B^2$ = 15 mA. (10) I_C = 10 µA, V_{CE} = 5V, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD240B	TO-220	80	80		200 µA*	80	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	5F
BD240C	TO-220	80	100		200 µA*	100	15 40		1A 200	4 4	0.7		1.3*	1A		3		200	420	6	5/6	5F
BD241	TO-220	80	45		200 µA*	45	10 25		3A 1A	4 4	1.3		1.8*	3A		3		500	420	6	5/6	4F
BD241A	TO-220	80	60		200 µA*	60	10 25		3A 1A	4 4	1.3		1.8*	3A		3		500	420	6	5/6	4F
BD241B	TO-220	80	80		200 µA*	80	10 25		3A 1A	4 4	1.3		1.8*	3A		3		500	420	6	5/6	4F
BD241C	TO-220	80	100		200 µA*	100	10 25		3A 1A	4 4	1.3		1.8*	3A		3		500	420	6	5/6	4F
BD242	TO-220	80	45		200 µA*	45	10 25		3A 1A	4 4	1.2		1.8*	3A		3		500	420	6	5/6	5E
BD242A	TO-220	80	60		200 µA*	60	10 25		3A 1A	4 4	1.2		1.8*	3A		3		500	420	6	5/6	5E
BD242B	TO-220	80	80		200 µA*	80	10 25		3A 1A	4 4	1.2		1.8*	3A	3	3		500	420	6	5/6	5E
BD242C	TO-220	80	100		200 µA*	100	10 25		3A 1A	4 4	1.2		1.8*	3A		3		500	420	6	5/6	5E
BD243	TO-220		45		400 µA*	45	30 15		300 3A	4 4						3		500				4A
BD243A	TO-220		60		400 µA*	60	30 15		300 3A	4 4						3		500				4A
BD243B	TO-220		80		400 µA*	80	30 15		300 3A	4 4						3		500				4A
BD243C	TO-220		100		400 µA*	100	30 15		300 3A	4 4												4A
BD244	TO-220		45		400 µA*	45	30 15		300 3A	4 4												4A
BD244A	TO-220		60		400 µA*	60	30 15		300 3A	4 4												5A
BD244B	TO-220		80		400 µA*	80	30 15		300 3A	4 4						3		500				5A
BD244C	TO-220		100		400 µA*	100	30 15		300 3A	4 4						3		500				5A
BD344	TO-126	60	60	5	500	60	60 40	 250	50 200	1 1	0.4			200	20	50		50				78

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	V_{BE} Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD345	TO-126	60	60	5	500	60	60 40	 250	50 200	1 1	0.4			200	20	50		50				38
BD346	TO-220		60		10 µA	60	40 30	140	2A 4A	2.5 2.5					200	4		250				5A
BD347	TO-220		60		10 µA	60	40 30	140	2A 4A.	2.5 2.5					200	4		250				4A
BD348	TO-126	80	80	5	500	80	60 50	 250	100 250	1 1	0.5			250	17	50		50				79
BD349	TO-126		80		500	80	60 50	 250	100 250	1 1	0.5		1.5*	250	15	50		50				39
BD370A	TO-237 (91)	80	45		100	45	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370A-10	TO-237 (91)	80	45		100	45	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370A-16	TO-237 (91)	80	45		100	45	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370A-25	TO-237 (91)	80	45		100	45	25 160	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370B	TO-237 (91)	80	60		100	60	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370B-10	TO-237 (91)	80	60		100	60	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370B-16	TO-237 (91)	80	60		100	60	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370B-25	TO-237 (91)	80	60		100	60	25 160	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370C	TO-237 (91)	80	80		100	80	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370-6	TO-237 (91)	80	80		100	80	25 40	 100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370C-10	TO-237 (91)	80	80		100	80	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD370C-16	TO-237 (91)	80	80		100	80	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_{B^1} = I_{B^2} = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_{B^1} = I_{B^2} = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_{B^1} = I_{B^2} = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_{B^1} = I_{B^2} = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD370D	TO-237 (91)	80	100		100	80	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	79
BD370D-6	TO-237 (91)	80	100		100	80	25 40	100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	79
BD370D-10	TO-237 (91)	80	100		100	80	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	79
BD371A	TO-237 (91)	80	45		100	45	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371A-10	TO-237 (91)	80	45		100	45	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371A-16	TO-237 (91)	80	45		100	45	25 100	250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371A-25	TO-237 (91)	80	45		100	45	25 180	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371B	TO-237 (91)	80	60		100	60	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371B-10	TO-237 (91)	80	60		100	60	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371B-16	TO-237 (91)	80	60		100	60	25 100	250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371B-25	TO-237 (91)	80	60		100	60	25 160	400	500 100	2	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371C	TO-237 (91)	80	80		100	80	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371C-6	TO-237 (91)	80	80		100	80	25 40	100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371C-10	TO-237 (91)	80	80		100	80	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371C-16	TO-237 (91)	80	80		100	80	25 100	250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD371D	TO-237 (91)	80	100		100	100	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	39
BD371D-6	TO-327 (91)	80	100		100	100	25 40	100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	39
BD371D-10	TO-237 (91)	80	100		100	100	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	39
BD372A	TO-237 (90)	80	45		100	45	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD372A-10	TO-237 (90)	80	45		100	45	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372A-16	TO-237 (90)	80	45		100	45	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372A-25	TO-237 (90)	80	45		100	45	25 160	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372B	TO-237 (90)	80	60		100	60	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372B-10	TO-237 (90)	80	60		100	60	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372B-16	TO-237 (90)	80	60		100	60	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372B-25	TO-237 (90)	80	60		100	60	25 160	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372C	TO-237 (90)	80	80		100	80	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372C-6	TO-237 (90)	80	80		100	80	25 40	 100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372C-10	TO-237 (90)	80	80		100	80	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372C-16	TO-237 (90)	80	100		100	100	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	78
BD372D	TO-237 (90)	80	100		100	100	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	79
BD372D-6	TO-237 (90)	80	100		100	100	25 40	 100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	79
BD372D-10	TO-237 (90)	80	100		100	100	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	79
BD373A	TO-237 (90)	80	45		100	45	25 40	 400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373A-10	TO-237 (90)	80	45		100	45	25 63	 160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373A-16	TO-237 (90)	80	45		100	45	25 100	 250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38

TEST CONDITIONS:
(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B^1 = I_B^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B^1 = I_B^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B^1 = I_B^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B^1 = I_B^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD373A-25	TO-237 (90)	80	45		100	45	25 160	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373B	TO-237 (90)	80	80		100	80	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373B-10	TO-237 (90)	80	60		100	80	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/8	38
BD373B-16	TO-237 (90)	80	60		100	60	25 100	250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/8	38
BD373B-25	TO-237 (90)	80	60		100	60	25 160	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373C	TO-237 (90)	80	80		100	80	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373C-6	TO-237 (90)	80	80		100	80	25 40	100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373C-10	TO-237 (90)	80	80		100	80	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373C-16	TO-237 (90)	80	80		100	80	25 100	250	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	38
BD373D	TO-237 (90)	80	100		100	100	25 40	400	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	39
BD373D-6	TO-237 (90)	80	100		100	100	25 40	100	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	39
BD373D-10	TO-237 (90)	80	100		100	100	25 63	160	500 100	2 1	0.7		1.2*	1A	30	50		200	420	6	5/6	39
BD375	TO-126	50	45		2 μA	45	20 40	375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD375-6	TO-126	50	45		2 μA	45	20 40	100	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD375-10	TO-126	50	45		2 μA	45	20 63	160	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD375-16	TO-126	50	45		2 μA	45	20 100	250	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD375-25	TO-126	50	45		2 μA	45	20 150	375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD376	TO-126	50	45		2 μA	45	20 40	375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD376-6	TO-126	50	45		2 μA	45	20 40	100	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ & $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD376-10	TO-126	50	45		2 μA	45	20 63	 160	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD376-16	TO-126	50	45		2 μA	45	20 100	 200	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD376-25	TO-126	50	45		2 μA	45	20 150	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD377	TO-126	75	60		2 μA	60	20 40	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD377-6	TO-126	75	60		2 μA	60	20 40	 100	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD377-10	TO-126	75	60		2 μA	60	20 63	 160	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD377-16	TO-126	75	60		2 μA	60	20 100	 250	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD377-25	TO-126	75	60		2 μA	60	20 150	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	38
BD378	TO-126	75	60		2 μA	60	20 40	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD378-6	TO-126	75	60		2 μA	60	20 40	 100	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD378-10	TO-126	75	60		2 μA	60	20 63	 160	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD378-16	TO-126	75	60		2 μA	60	20 100	 250	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD378-25	TO-126	75	60		2 μA	60	20 150	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	78
BD379	TO-126	100	80		2 μA	80	20 40	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	39
BD379-6	TO-126	100	80		2 μA	80	20 40	 100	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	39

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B^1 = I_B^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B^1 = I_B^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B^1 = I_B^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B^1 = I_B^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD379-10	TO-126	100	80		2 μA	80	20 63	 160	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	39
BD379-16	TO-126	100	80		2 μA	80	20 100	 250	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	39
BD379-25	TO-126	100	80		2 μA	80	20 150	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	39
BD380	TO-126	100	80		2 μA	80	20 40	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	79
BD380-6	TO-126	100	80		2 μA	80	20 40	 100	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	79
BD380-10	TO-126	100	80		2 μA	80	20 63	 160	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	79
BD380-16	TO-126	100	80		2 μA	80	20 100	 250	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	79
BD380-25	TO-126	100	80		2 μA	80	20 150	 375	1A 150	2 2	1.0		1.5*	1A	30	50		200	420	6	5/6	79
BD433	TO-126	22†	22	5	100 μA	22	50 85 40	 475 	2A 500 10	1 1 5	0.5		1.1*	2A		3		250	420	6	5/6	4E
BD434	TO-126	22†	22	5	100 μA	22	50 85 40	 475 	2A 500 10	1 1 5	0.5		1.1*	2A	30	3		250	420	6	5/6	5E
BD435	TO-126	32†	32	5	100 μA	32	50 85 40	 475 	2A 500 10	1 1 5	0.5		1.1*	2A	30	3		250	420	6	5/6	4E
BD436	TO-126	32†	32	5	100 μA	32	50 85 40	 475 	2A 500 10	1 1 5	0.5		1.1*	2A	30	3		250	420	6	5/6	5E
BD437	TO-126	45†	45	5	100 μA	45	40 40 30	 236 	2A 500 10	1 1 5	0.6		1.2*	2A	30	3		250	420	6	5/6	4E
BD438	TO-126	45†	45	5	100 μA	45	40 40 30	 236 	2A 500 10	1 1 5	0.6		1.2*	2A	30	3		250	420	6	5/6	5E
BD439	TO-126	60†	60	5	100 μA	60	25 40 20	 236 	2A 500 10	1 1 5	0.8		1.5*	2A	30	3		250	420	6	5/6	4E

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD440	TO-126	60†	60	5	100 µA	60	25 40 20	 236 	2A 500 10	1 1 5	0.8		1.5*	2A	80	3		250	420	6	5/6	5E
BD441	TO-126	80†	80	5	100 µA	80	15 40 15	 236 	2A 500 10	1 1 5	0.8		1.5*	2A	30	3		250	420	6	5/6	4E
BD442	TO-126	80†	80	5	100 µA	80	15 40 15	 236 	2A 500 10	1 1 5	0.8		1.5*	2A	30	3		250	420	6	5/6	5E
BD533	TO-220	80†	45	5	100 µA	45	25 40 20		2A 500 10	2 2 5	0.8		1.5*	2A	30	3		250	420	6	5/6	4E
BD534	TO-220	80†	45	5	100 µA	45	25 40 20		2A 500 10	2 2 5	0.8		1.5*	2A	30	3		250	420	6	5/6	5E
BD535	TO-220	80†	60	5	100 µA	60	25 40 20		2A 500 10	2 2 5	0.8		1.5*	2A	30	3		250	420	6	5/6	4E
BD536	TO-220	80†	60	5	100 µA	60	25 40 20		2A 500 10	2 2 5	0.8		1.5*	2A	30	3		250	420	6	5/6	5E
BD537	TO-220	80†	80	5	100 µA	80	15 40 15		2A 500 10	2 2 5	0.8		1.5*	2A	30	3		250	420	6	5/6	4E
BD538	TO-220	80†	80	5	100 µA	80	15 40 15		2A 500 10	2 2 5	0.8		1.5*	2A	30	3		250	420	6	5/6	5E
BD633	TO-220	45	45	5	200 µA†	45	25 40		1A 25	2 2	0.6		1.3*	1A	30	3		250	420	6	5/6	4F
BD634	TO-220	45	45	5	200 µA†	45	25 40		1A 25	2 2	0.6		1.3*	1A	30	3		250	420	6	5/6	5F
BD635	TO-220	60	60	5	200 µA†	60	25 40		1A 25	2 2	0.6		1.3*	1A	30	3		250	420	6	5/6	4F

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD636	TO-220	60	60	5	200 µA†	60	25 40		1A 25	2 2	0.6		1.3*	1A	30	3		250	420	6	5/6	5F
BD637	TO-220	100	80	5	200 µA†	100	25 40		1A 25	2 2	0.6		1.3*	1A	30	3		250	420	6	5/6	4F
BD638	TO-220	100	80	5	200 µA†	100	25 40		1A 25	2 2	0.6		1.3	1A	30	3		250	420	6	5/6	5F
BD675	TO-126		45		200 µA	45	750		1.5A	3	2.5		2.5*	1.5A		1		1.5A				4J
BD675A	TO-126		45		200 µA	45	750		2A	3	2.8		2.5*	2A		1		1.5A				4J
BD676	TO-126		45		200 µA	45	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				5J
BD676A	TO-126		45		200 µA	45	750		2A	3V	2.8		2.5*	2A		1		1.5A				5J
BD677	TO-126		60		200 µA	60	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				4J
BD677A	TO-126		60		200 µA	60	750		2A	3V	2.8		2.5*	2A		1		1.5A				4J
BD678	TO-126		60		200 µA	60	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				5J
BD678A	TO-126		60		200 µA	60	750		2A	3V	2.8		2.5*	2A		1		1.5A				5J
BD679	TO-126		80		200 µA	80	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				4J
BD679A	TO-126		80		200 µA	80	750		2A	3V	2.8		2.5*	2A		1		1.5A				4J
BD680	TO-126		80		200 µA	80	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				5J
BD680A	TO-126		80		200 µA	80	750		2A	3V	2.8		2.5*	2A		1		1.5A				5J
BD681	TO-126		100		200 µA	100	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				4J
BD682	TO-126		100		200 µA	100	750		1.5A	3V	2.5		2.5*	1.5A		1		1.5A				5J
BD733	TO-220	25	25	5	200 µA†	25	50 40		2A 20	1 4	0.6		1.1*	2A		1		1.5A				4F
BD734	TO-220	25	25	5	200 µA†	25	50 40		2A 20	1 4	0.6		1.1*	2A		1		1.5A				5E
BD735	TO-220	35	35	5	200 µA†	35	40 40		2A 20	1 4	0.6		1.1*	2A		1		1.5A				4F
BD736	TO-220	35	35	5	200 µA†	35	40 40		2A 20	1 4	0.6		1.1*	2A		1		1.5A				5E
BD737	TO-220	45	45	5	200 µA†	45	40 40		2A 20	1 4	0.8		1.1*	2A		1		1.5A				4F
BD738	TO-220	45	45	5	200 µA†	45	40 40		2A 20	1 4	0.8		1.1*	2A		1		1.5A				5E
BD795	TO-220		45		100	45	40 25		1A 3A	2 2	1.0		1.6*	3A		3		250				4E
BD796	TO-220		45		100	45	40 25		1A 3A	2 2	1.0		1.6*	2A		3		250				5E
BD797	TO-220		60		100 µA	60	40 25		1A 3A	2 2	1.0		1.6*	3A		3		250				4E

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BD798	TO-220		60		100 μA	60	40 25		1A 3A	2 2	1.0		1.6*	3A		3		250				5E
BD799	TO-220		80		100 μA	80	30 15		1A 3A	2 2	1.0		1.6*	3A		3		250				4E
BD800	TO-220		80		100 μA	80	30 15		1A 3A	2 2	1.0		1.6*	3A		3		250				5E
BD801	TO-220		100		100 μA	100	30 15		1A 3A	2 2	1.0		1.6*	3A		3		250				4E
BD802	TO-220		100		100 μA	100	30 15		1A 3A	2 2	1.0		1.6*	3A		3		250				5E
BD895	TO-220		45		200 μA	45	750		3A	3			2.5*	3A		1		3A				4K
BD895A	TO-220		45		200 μA	45	750		4A	3			2.5*	4A		1		3A				4K
BD896	TO-220		45		200 μA	45	750		3A	3			2.5*	3A		1		3A				5K
BD896A	TO-220		45		200 μA	45	750		4A	3			2.5*	4A		1		3A				5K
BD897	TO-220		60		200 μA	60	750		3A	3			2.5*	3A		1		3A				4K
BD897A	TO-220		60		200 μA	60	750		4A	3			2.5*	4A		1		4A				4K
BD898	TO-220		60		200 μA	60	750		3A	3			2.5*	3A		1		3A				5K
BD898A	TO-220		60		200 μA	60	750		4A	3			2.5*	4A		1		4A				5K
BD899	TO-220		80		200 μA	80	750		3A	3			2.5*	3A		1		3A				4K
BD899A	TO-220		80		200 μA	80	750		4A	3			2.5*	4A		1		4A				4K
BD900	TO-220		80		200 μA	80	750		3A	3			2.5*	3A		1		3A				5K
BD900A	TO-220		80		200 μA	80	750		4A	3			2.5*	4A		1		4A				5K
BD901	TO-220		100		200 μA	100	750		3A	3			2.5*	3A		1		3A				4K
BD902	TO-220		100		200 μA	100	750		4A	3			2.5*	4A		1		4A				4K
BDX33	TO-220		45		1 mA	45	750		4A	3			2.5*	4A		20		1A				4K
BDX33A	TO-220		60		1 mA	60	750		4A	3			2.5*	4A		20		1A				4K
BDX33B	TO-220		80		1 mA	80	750		3A	3			2.5*	3A		20		1A				4K
BDX33C	TO-220		100		1 mA	100	750		3A	3			2.5*	3A		20		1A				4K
BDX33D	TO-220		120		1 mA	120	750		3A	3			2.5*	3A		20		1A				4K
BDX34	TO-220		45		1 mA	45	750		4A	3			2.5*	4A		20		1A				5K
BDX34A	TO-220		60		1 mA	60	750		4A	3			2.5*	4A		20		1A				5K
BDX34B	TO-220		80		1 mA	80	750		3A	3			2.5*	3A		20		1A				5K

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, f = 1 kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, f = 1 kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, f = 200 kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, f = 1 kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max @	V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	Max @	I_C (mA) &	V_{CE} (V)	$V_{CE(SAT)}$ (V) Max &	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	Max @	I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	Max @	I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BDX34C	TO-220		100		1 mA	100	750		3A	3			2.5*	3A		20		1A				5K
BDX34D	TO-220		120	-	1 mA	120	750		3A	3			2.5*	3A		20		1A				5K
BF167	TO-72 (28)	40	30	4	100†	30	26		4	10			0.84*	4								45
BF180	TO-72 (25)	30	20	3	100	20	13 6		2 12	10 7												41
BF181	TO-72 (25)	30	20	3	100	20	13 6		2 12	10 7												41
BF194	TO-92 (98)	Same as BF254, see page 5-33 for explanation																				46
BF195	TO-92 (98)	Same as BF255, see page 5-33 for explanation																				46
BF196	TO-92 (98)	Same as BF198, see below for explanation																				45
BF197	TO-92 (98)	Same as BF199, see below for explanation																				47
BF198	TO-92 (98)	40	30	4	100	40	26 6		4 12	10 7			0.85*	4								45
BF199	TO-92 (98)	40	25	4	100	40	36 6		7 12	10 7						1100 typ		7				47
BF200	TO-72 (25)	30	20	3	100	40	15 6		3 12	10 7												41
BF233-2	TO-92 (96)	30	30	4	100	10	40 6	70	1 12	10 7		0.65	0.74*	1	1.0	150		1				49
BF233-3	TO-92 (96)	30	30	4	100	10	60 6	100	1 12	10 7		0.65	0.74*	1	1.0	150		1				49
BF233-4	TO-92 (96)	30	30	4	100	10	90 6	150	1 12	10 7		0.65	0.74*	1	1.0	150		1				49
BF233-5	TO-92 (96)	30	30	4	100	10	140 6	220	1 12	10 7		0.65	0.74*	1	1.0	150		1				49
BF237	TO-92 (98)	45	30	4	100	20					0.25			10								47
BF238	TO-92 (98)	45	30	4	100	20					0.25			10								47
BF240	TO-92 (98)	40	40	4	100	20	67 6	222	1 12	10 7		0.65	0.74*	1	0.34			1		3.5	7	47
BF241	TO-92 (98)	40	40	4	100	20	36 6	125	1 12	10 7		0.65	0.74*	1	0.34			1		3.5	7	47

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max @	V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max @	I_C (mA) &	V_{CE} (V)	$V_{CE(SAT)}$ (V) Max &	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max @	I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max @	I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BF254	TO-92 (98)	30	20	5	100	20	67 6	220	1 12	10 7		0.65	0.74*	1	0.34			1		3.5	7	46
BF255	TO-92 (98)	30	20	5	100	20	36 6	125	1 12	10 7		0.65	0.74*	1	0.34			1		3.5	7	46
BF257	TO-39	100	100	5	50	100	25 6		30 12	10 7	1.0	0.65	0.74*	30	0.34			1		3.5	7	48
BF258	TO-39	250	250	5	50	200	25 6		30 12	10 7	1.0	0.65	0.74*	30	0.34			1		3.5	7	48
BF259	TO-39	300	300	5	50	250	25 6		30 12	10 7	1.0	0.65	0.74*	30	0.34			1		3.5	7	48
BF457	TO-126	100	100	5	50	100	25 6		30 12	10 7	1.0	0.65	0.74*	30	0.34			1		3.5	7	48
BF458	TO-126	250	200	5	50	200	25 6		30 12	10 7	1.0	0.65	0.74*	30	0.34			1		3.5	7	48
BF459	TO-126	300	300	5	50	250	25 6		30 12	10 7	1.0	0.65	0.74*	30	0.34			1		3.5	7	48
BFX13	TO-18	20	15	5	50	15	10 50 18	250	100 10 1	2 0.35 2	0.2 0.25 1.5	0.7	0.78 0.9 1.5	1 10 100	6	150		10		10	8	66
BFX29	TO-5	20	15	5	50	50	40 50 50 40 20		150 50 10 1 0.1	10 10 10 10 10	0.4		1.3 0.9	150 30	.12	100		50	150		9	63
BFX30	TO-5	65	65	5	50	50	10 20 50 40	200	150 50 10 1	0.4 0.4 0.4 0.4			0.9 1.3	30 150	12				290		4	63
BFX37	TO-18	60	60	6	20†	50	100 100 0.85 70	300	10 1 0.1 0.01	5 5 5 5	0.4 0.25		1.0 0.9	50 10	6	40		0.5		3	1	62
BFX65	TO-18	45	45	6	10*	40	100 100 100 40		10 1 0.1 0.01	5 5 5 5	0.25		0.9	10	6.5					3	1	62

TEST CONDITIONS:
(1) I_C = 200 μA, V_{CE} = 5V, f = 1 kHz. (2) I_C = 100 mA, V_{CC} = 20V, $I_B{}^1 = I_B{}^2$ = 5 mA. (3) I_C = 200 μA, V_{CE} = 2V, f = 1 kHz. (4) I_C = 100 mA, V_{CC} = 10V, $I_B{}^1 = I_B{}^2$ = 10 mA. (5) I_C = 10 mA, V_{CC} = 3V, $I_B{}^1 = I_B{}^2$ = 1 mA. (6) I_C = 100 μA, V_{CE} = 5V, f = 1 kHz. (7) I_C = 1 mA, V_{CE} = 10V, f = 200 kHz. (8) I_C = 1 mA, V_{CE} = 5V, f = 1 kHz. (9) I_C = 150 mA, V_{CC} = 6V, $I_B{}^1 = I_B{}^2$ = 15 mA. (10) I_C = 10 μA, V_{CE} = 5V, f = WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max @	V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max @	I_C (mA) &	V_{CE} (V)	$V_{CE(SAT)}$ (V) Max &	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max @	I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max @	I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BFX84	TO-39	45	45	6	500	100	15 20 30 20		1A 500 150 10	10 10 10 10	0.15 0.35 1.0 1.6		1.2 1.3 1.5 2.0	10 150 500 1A	12	50		50	360		9	14
BFX85	TO-39	45	45	6	50	80	15 30 70 50		1A 500 150 10	10 10 10 10	0.15 0.35 1.0 1.6		1.2 1.3 1.5 2.0	10 150 500 1A	12	50		50	360		9	14
BFX86	TO-39	45	45	6	50	30	15 30 70 50		1A 500 150 10	10 10 10 10	0.15 0.35 1.0 1.6		1.2 1.3 1.5 2.0	10 150 500 1A	12	50		50	360		9	14
BFX87	TO-5	45	50	6	50	40	25 40 40 40		500 150 10 1	10 10 10 10	0.4		1.3 0.9	150 30	12	100		50	150		9	63
BFX88	TO-5	45	40	6	50	30	25 40 40 40		500 150 10 1	10 10 10 10	0.4		1.3 0.9	150 30	12	100		50	150		9	63
BFY39	TO-18	45	25	5	50	30	35	400	10	10	1.0		1.0	10		150		10				23
BFY39-1	TO-18	45	25	5	50	30	35	110	10	10	1.0		1.0	10		150		10				23
BFY39-2	TO-18	45	25	5	50	30	100	200	10	10	1.0		1.0	10		150		10				23
BFY39-3	TO-18	45	25	5	50	30	180	400	10	10	1.0		1.0	10		150		10				23
BFY50	TO-18	80	35	6	500	80	20 30 20 15		10 150 500 1A	10 10 10 10	0.1		1.2	10	12	60		50	360		9	14
BFY51	TO-39	60	30	6	500	60	30 40 25 15		10 150 500 1A	10 10 10 10	0.1		1.2	10	12	60		50	360		9	14
BFY52	TO-39	40	20	6	500	60	30 60 30 15		10 150 500 1A	10 10 10 10	0.1		1.2	10	12	60		50	360		9	14
BFY56	TO-39	80	45	5	50	50	15 20 30	 150	1 500 150	10 10 1	0.3 1.2		1.5 2.5	150 1A	25	40		50				14

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BFY72	TO-39	50	28	5	40*	20	15		0.1	10	0.25		1.2	150	8	50		50				19
							20		1	10												
							30		10	10												
							40	150	150	10												
							15		500	10	0.7		1.6	500								
BFY76	TO-18	45	45	6	20	30	30	200	0.01	5	0.35			1	6							
							80		0.5	5												
							140		1	5												
BSX21	TO-18		80		500	50	20		4	3			0.9	4		60		4				07
BSX45-6	TO-39	80*	40	7	10*	60	40	100	100	1	1.0			500	20	60		50				14
													2.0	1A								
BSX45-10	TO-39	80*	40	7	10*	60	63	160	100	1	1.0			500	20	60		50				14
													2.0	1A								
BSX45-16	TO-39	80*	40	7	10*	60	100	250	100	1	1.0			500	20	60		50				14
													2.0	1A								
BSX46-6	TO-39	100*	60	7	10*	60	40	100	100	1	1.0			500	25	60		50				12
													2.0	1A								
BSX46-10	TO-39	100*	60	7	10*	60	63	160	100	1	1.0			500	25	60		50				12
													2.0	1A								
BSX46-16	TO-39	100*	60	7	10*	60	100	250	100	1	1.0			500	25	60		50				12
													2.0	1A								
BSX48	TO-18	50	25	5	120	50	17		100	1	1.5		1.5	500	6	250		30				19
BSX88	TO-18	40	15	5	25	20	15		0.5	1	0.5	0.72	0.8	10	6	300		10				21
BSY38	TO-18	20	12	5	100	20	30	60	10	0.35	0.25	0.7	0.85	10	5	200		10	45		16	21
							15	45	100	1	0.6		1.5	100								
BSY39	TO-18	20	12	5	100	20	40	120	10	0.35	0.25	0.7	0.85	10	5	200		10	45		16	21
							20	70	100	1	0.6		1.5	100								
BSY51	TO-18	60	35	5	100	30	40	120	150	10	1.0		1.3	150	9	130		50				19
BSY52	TO-18	60	25	5	100	30	100	300	150	10	1.0		1.3	150	9	130		50				19
BSY53	TO-18	75	30	7	10	60	20		0.1	10	0,6		1.3	150	9	150		50				19
							35		10	10												
							40	120	150	10												
							20		500	10	2.0			500								

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B^1 = I_B^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, $f = 1$ kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B^1 = I_B^2 = 10$ mA. (5) $I_C = 10$ mA; $V_{CC} = 3V$, $I_B^1 = I_B^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, $f = 200$ kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, $f = 1$ kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B^1 = I_B^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, $f =$ WB.

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PRO ELECTRON SERIES (Continued)

Type No.	Case Style	V_{CES}* V_{CBO} (V) Min	V_{CEO} (V) Min	V_{EBO} (V) Min	I_{CES}* I_{CBO} (nA) Max	@ V_{CB} (V)	H_{FE} h_{fe} 1 kHz* Min	H_{FE} h_{fe} 1 kHz* Max	@ I_C (mA)	& V_{CE} (V)	$V_{CE(SAT)}$ (V) Max	& $V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Min	$V_{BE(SAT)}$ $V_{BE(ON)}$* (V) Max	@ I_C (mA)	C_{ob} (pF) Max	f_T (MHz) Min	f_T (MHz) Max	@ I_C (mA)	t_{off} (ns) Max	NF (dB) Max	Test Conditions	Process No.
BSY54	TO-18	75	30	7	10	60	35		0.1	10	0.6		1.3	150	9	150		50				19
							75		10	10												
							100	300	150	10												
							40		500	10	2.0			50								
BSY95A	TO-18	20	15	5	50	16	30		1	0.35	0.35	0.67	0.87	10	6	200		10				21
							50	200	10	0.35												

TEST CONDITIONS:

(1) $I_C = 200\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (2) $I_C = 100$ mA, $V_{CC} = 20V$, $I_B{}^1 = I_B{}^2 = 5$ mA. (3) $I_C = 200\ \mu A$, $V_{CE} = 2V$, $f = 1$ kHz. (4) $I_C = 100$ mA, $V_{CC} = 10V$, $I_B{}^1 = I_B{}^2 = 10$ mA. (5) $I_C = 10$ mA, $V_{CC} = 3V$, $I_B{}^1 = I_B{}^2 = 1$ mA. (6) $I_C = 100\ \mu A$, $V_{CE} = 5V$, $f = 1$ kHz. (7) $I_C = 1$ mA, $V_{CE} = 10V$, $f = 200$ kHz. (8) $I_C = 1$ mA, $V_{CE} = 5V$, $f = 1$ kHz. (9) $I_C = 150$ mA, $V_{CC} = 6V$, $I_B{}^1 = I_B{}^2 = 15$ mA. (10) $I_C = 10\ \mu A$, $V_{CE} = 5V$, $f = $ WB.

6501130 NATL SEMICOND, (DISCRETE) 28C 35546 D

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PRO ELECTRON SERIES (JFET)

Type No.	Case Style	BV_{GSS} $\cdot BV_{GDO}$ (V) Min	@ I_G (µA)	I_{GSS} I_{DGD} (nA) Max	@V_{GD} (V)	V_P (V) Min	V_P (V) Max	@ V_{DS} (V)	I_D (nA)	V_{GS} (V) Min	V_{GS} (V) Max	@ V_{GS} (V)	I_D (µA)	I_{DSS} (mA) Min	I_{DSS} (mA) Max	@ V_{DS} (V)	$R_e(Y_{FS})$ (mmho) Min	$R_e(Y_{FS})$ (mmho) Max	@ f (MHz)	C_{iss} (pF) Typ	@V_{DS} (V)	V_{GS} (V)	C_{rss} (pF) Typ	@V_{DS} (V)	V_{GS} (V)	NF (dB) @ R_G = 1k Max	NF e_n* Typ	f (Hz)* (MHz)	Process No.	Pkg. No.
BF244A	TO-92	30	1	5	20	.5	8	15	10	.4	2.2	15	200	2	6.5	15	3	6.5	.001	4	20	−1	1.1	20	−1		1.5	100	50	74
BF244B	TO-92	30	1	5	20	.5	8	15	10	1.6	3.8	15	200	6	15	15	3	6.5	.001	4	20	−1	1.1	20	−1		1.5	100	50	74
BF244C	TO-92	30	1	5	20	.5	8	15	10	3.2	7.5	15	200	12	25	15	3	6.5	.001	4	20	−1	1.1	20	−1		1.5	100	50	74
BF245A	TO-92	30	1	5	20	.5	8	15	10	.4	2.2	15	200	2	6.5	15	3	6.5	.001	4	20	−1	1.1	20	−1				50	77
BF245B	TO-92	30	1	5	20	.5	8	15	10	1.6	3.8	15	200	6	15	15	3	6.5	.001	4	20	−1	1.1	20	−1				50	77
BF245C	TO-92	30	1	5	20	.5	8	15	10	3.2	7.5	15	200	12	25	15	3	6.5	.001	4	20	−1	1.1	20	−1				50	77
BF246A	TO-92	25	1	5	15	.6	14.5	15	10	1.5	4.0	15	200	30	80	15	8		.001	11	15	0	3.5	15	0				51	74
BF246B	TO-92	25	1	5	15	.6	14.5	15	10	3.0	7.0	15	200	60	140	15	8		.001	11	15	0	3.5	15	0				51	74
BF246C	TO-92	25	1	5	15	.6	14.5	15	10	5.5	12	15	200	110	250	15	8		.001	11	15	0	3.5	15	0				51	74
BF247A	TO-92	25	1	5	15	.6	14.5	15	10	1.5	4.0	15	200	30	80	15	8		.001	11	15	0	3.5	15	0				51	77
BF247B	TO-92	25	1	5	15	.6	14.5	15	10	3.0	7.0	15	200	60	140	15	8		.001	11	15	0	3.5	15	0				51	77
BF247C	TO-92	25	1	5	15	.6	14.5	15	10	5.5	12	15	200	110	250	15	8		.001	11	15	0	3.5	15	0				51	77
BF256A	TO-92	30	1	5	20					.5	7.5	15	200	3	7	15	4.5		.001				.7	20	−1		7.5	800	50	77
BF256B	TO-92	30	1	5	20					.5	7.5	15	200	6	13	15	4.5		.001				.7	20	−1		7.5	800	50	77
BF256C	TO-92	30	1	5	20					.5	7.5	15	200	11	18	15	4.5		.001				.7	20	−1		7.5	800	50	77
BC264A	TO-92	30	1	10	20	.5		15	10	.2	1.2	15	1000	2	4.5	15	2.5		.001	4.0	15	−1	1.2	15	−1		40*	10*	50	77
BC264B	TO-92	30	1	10	20	.5		15	10	.4	1.4	15	1500	3.5	6.5	15	3.0		.001	4.0	15	−1	1.2	15	−1		40*	10*	50	77
BC264C	TO-92	30	1	10	20	.5		15	10	.5	1.5	15	2500	5.0	8.0	15	3.5		.001	4.0	15	−1	1.2	15	−1		40*	10*	50	77
BC264D	TO-92	30	1	10	20	.5		15	10	.6	1.6	15	3500	7.0	12.0	15	4.0		.001	4.0	15	−1	1.2	15	−1		40*	10*	50	77

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