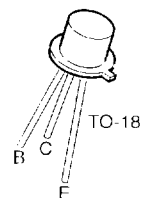
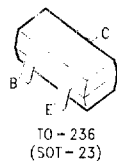
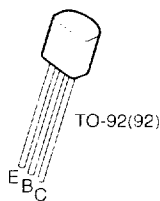


Low Noise Amplifiers

V _{CEO(sust)} (Volts) Min	Device		h _{FE} @ I _C			NF (dB) Max	f _T (MHz) Min	Package	Notes
	NPN	PNP	Min	Max	mA				
65	BC546		110	450	2	10	300 Typ	TO-92(97)	1,2C
	BC846		110	450	0.01	10	300 Typ	TO-236*	1,2C
		BC556	75	475	2	10	300 Typ	TO-92(97)	1,2C
		BC856	125	475	2	10	300 Typ	TO-236*	1,2C
60	2N2484		100	500	0.01	3	60	TO-18	2F
	2N3117		250	500	0.01	1	60	TO-18	2L
	2N5961		150	700	10	3	60	TO-92(92)	2M
		2N3962	100	300	0.01	3	50	TO-18	2N
		PN424	100	300	0.1	3	6	TO-92(92)	2A
		PN425(A)	250	700	0.1	2	6	TO-92(92)	2A
50	2N5210		200	600	0.1	3	30	TO-92(92)	2J
	BC182		125	500	2	10	150	TO-92(97)	1,2C
		2N5086	150	500	0.1	3	40	TO-92(92)	2H
		2N5087	250	800	0.1	2	40	TO-92(92)	2H
		BC212	60	400	2	10	200	TO-92(97)	1,2C
		MMBT5086	150	500	0.1	3	40	TO-236*	2H
		MMBT5087	250	800	0.1	2	40	TO-236*	2H
	45	2N5962		600	1400	10	3	60	TO-92(92)
2N930			100	300	0.01	3	30	TO-18	2F
BC237			125	500	2	10	150	TO-92(97)	1,2C
BC547			110	800	2	10	300 Typ	TO-92(97)	1,2C
BC550			200	800	2	3	300 Typ	TO-92(97)	1,2D
BC847			110	800	0.01	10	300 Typ	TO-236*	1,2C
				800	2				

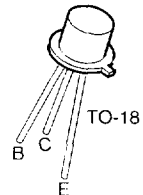
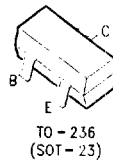
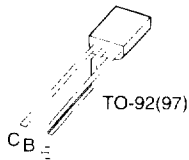
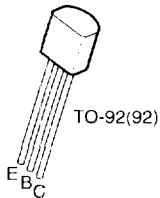
* TO-236AB is standard for all devices.
Please refer to Surface Mount section for TO-236 Device Marking.

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V _{CE(sust)} (Volts) Min	Device		h _{FE} @ I _C			NF (dB) Max	f _T (MHz) Min	Package	Notes
	NPN	PNP	Min	Max	mA				
45	BC850		110		0.01	4	300 Typ	TO-236*	1,2C
				800	2	3			1,2D
	BCX59	BCX73	120	630	2	6	125	TO-92(97)	1,2C
	MMBT100	MMBT200	100	450	10	4	250	TO-236*	2B
	MPSA18		500	1500	10	1.5	100	TO-92(92)	2E
	PN100	PN200	100	450	10	4	250	TO-92(92)	2B
	PN100A	PN200A	300	600	10	4	250	TO-92(92)	2B
	PN930		100	300	0.01	3	30	TO-92(92)	2F
		BC307	125	500	2	10	300 Typ	TO-92(97)	1,2C
		BC557	75	260	2	10	300 Typ	TO-92(97)	1,2C
		BC560	75	800	2	3	300 Typ	TO-92(97)	1,2D
		BC857	125	800	2	10	300 Typ	TO-236*	1,2C
	BC860	125	800	2	4	300 Typ	TO-236*	1,2C	
	BCX71	120	630	2	6	125	TO-236*	1,2C	
40	2N3904		100	300	10	5	300	TO-92(92)	2G
	MMBT2222A		100	300	150	4	300	TO-236*	2B
	MMBT3904		100	300	10	5	300	TO-236*	2G
	PN2222A		100	300	150	4	300	TO-92(92)	2B
	TIS97		250	700	0.1	2	200	TO-92(97)	2E
		2N3906	100	300	10	4	250	TO-92(92)	2G
		MMBT3906	100	300	10	4	250	TO-236*	2G
	PN4250	250	700	0.1	2	50	TO-92(92)	2A	
32	BCW33		420	800	2	10	300 Typ	TO-236*	2C
	BCX58	BCX78	120	630	2	6	125	TO-92(97)	1,2C
30	2N4123		50	150	2	6	250	TO-92(92)	2G
	2N5088		300	900	0.1	3	50	TO-92(92)	2E
	BC183		125	900	2	10	150	TO-92(97)	1,2C

* TO-236AB is standard for all devices.
Please refer to Surface Mount section for TO-236 Device Marking



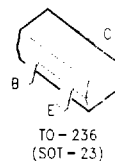
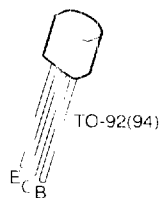
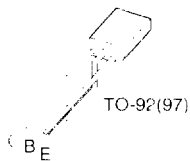
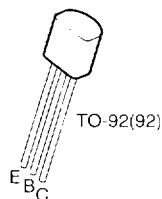
Low Noise Amplifiers (continued)

$V_{CE(sust)}$ (Volts) Min	Device		$h_{FE} @ I_C$			NF (dB) Max	f_T (MHz) Min	Package	Notes	
	NPN	PNP	Min	Max	mA					
30	BC184		240	900	2	4	150	TO-92(97)	1,2D	
	BC548		110	800	2	10	300 Typ	TO-92(97)	1,2C,2D	
	BC549		200	800	2	4	300 Typ	TO-92(97)	1,2C	
	BC848			110		0.01	10	300 Typ	TO-236	1,2C
						800				
	BC849			110		0.01	4	300 Typ	TO-236	1,2C,2D
						800				
	MMBT5038			300	900	0.1	3	50	TO-236	2E
		2N4124		50	150	2	5	250	TO-92(92)	2G
		BC213		80	600	2	10	200	TO-92(97)	1,2C
		BC214		140	600	2	2	200	TO-92(97)	1,2D
		BC558		75	800	2	10	300 Typ	TO-92(97)	1,2C
		BC559		75	800	2	4	300 Typ	TO-92(97)	1,2C
	BC858		125	800	2	10	300 Typ	TO-236	1,2C	
	BC859		125	800	2	4	300 Typ	TO-236	1,2C,2D	
25	2N3391A		250	500	2	5	300 Typ	TO-92(94)	2K	
	2N4124		120	360	2	5	350	TO-92(92)	2G	
	2N5089		400	1200	0.1	2	50	TO-92(92)	2E	
	BC238		125	900	2	10	150	TO-92(97)	1,2C	
	MMBT5089		400	1200	0.1	2	50	TO-236	2E	
	MPS6521	MPS6523		300	600	2	3	300 Typ	TO-92(92)	2F
		2N4124		120	360	2	4	250	TO-92(92)	2G
	BC308		125	900	2	10	300 Typ	TO-92(97)	1,2C	

* TO-236(A) is standard for all devices

Please refer to Surface Mount section for TO-236 Device Marking.

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Low Noise Amplifiers (continued)

V _{CE0(sust)} (Volts) Min	Device		h _{FE} @ I _C			NF (dB) Max	f _T (MHz) Min	Package	Notes
	NPN	PNP	Min	Max	mA				
20	BC239		240	900	2	4	150	TO-92(97)	1,2C,2D
		BC309	125	900	2	4	300 Typ	TO-92(97)	1,2C,2D

1 Suffixes: Many suffix devices, such as B, C, -1, G, etc. are available, subject to minimum order criteria.

2A — NF: Noise Figure @ R_S = 1 kΩ, I_C = 20 μA to 250 μA,
f = 1 kHz; @ R_S = 10 kΩ, I_C = 20 μA, f = 10 Hz to 15 kHz

2B — NF: Noise Figure @ R_S = 2 kΩ, I_C = 100 μA, f = 1 kHz

2C — NF: Noise Figure @ R_S = 2 kΩ, I_C = 200 μA, f = 1 kHz

2D — NF: Noise Figure @ R_S = 2 kΩ, I_C = 200 μA, f = 3 Hz to 15 kHz

2E — NF: Noise Figure @ R_S = 10 kΩ, I_C = 100 μA, f = 10 Hz to 15 kHz

2F — NF: Noise Figure @ R_S = 10 kΩ, I_C = 10 μA, f = 10 Hz to 15 kHz

2G — NF: Noise Figure @ R_S = 1 kΩ, I_C = 100 μA, f = 10 Hz to 15 kHz

2H — NF: Noise Figure @ R_S = 1 kΩ, I_C = 100 μA, f = 1 Hz
@ R_S = 10 kΩ, I_C = 20 mA, f = 10 Hz to 15 kHz

2J — NF: Noise Figure @ R_S = 10 kΩ, I_C = 20 μA, f = 1 Hz
@ R_S = 22 kΩ, I_C = 20 μA, f = 10 Hz to 15 kHz

2K — NF: Noise Figure @ R_S = 10 kΩ, I_C = 500 μA, f = 10 Hz to 15 kHz

2L — NF: Noise Figure @ R_S = 50 kΩ, I_C = 5.0 μA, f = 10 KHz and 10 KHz

2M — NF: Noise Figure @ R_S = 10 kΩ, I_C = 10 μA, f = 10 KHz

2N — NF: Noise Figure @ R_S = 1 kΩ, I_C = 20 μA

* TO-236AB is standard for all devices.
Please refer to Surface Mount section for TO-236 Device Marking.

