

6501130 NATL SEMICOND, (DISCRETE)

28C 35470 D

T-31-25

JFET Selection Guide

N-Channel JFETs

RF, VHF, UHF AMPLIFIERS



Type No.	Case Style	BVGSS (V) @ I _G (μA)	I _{GSS} (nA) @ V _{DG} (V)	V _P @ V _{DS} (V)	I _{DSS} (mA) @ V _{DS} (V)	R _g Y _{fs} (mmho) @ Freq (MHz)	R _g (V _{os}) (μmho) @ Freq (MHz)	C _{iss} (pF) @ V _{DS} (V) Max (V)	C _{iss} (pF) @ V _{DS} (V) Max (V)	V _{GS} (V)	NF (dB) @ F _G = 1k Freq (MHz) Max	Process No.	Pkg. No.
2N3819	TO-92	25 1	2 15	8 15 2	2 20 15	1.6 100	200	8 15 0	-4 15 0	0		50	94
2N3823	TO-72	30 1	0.5 20	8 15 0.5	4 20 15	3.2 200	200	6 15 0	-2 15 0	0	2.5 100	50	25
2N4223	TO-72	30 10	0.25 20	0.1 8 15 0.25	3 18 15	2.7 200	200	6 15 0	-2 15 0	0	5 200	50	25
2N4224	TO-72	30 10	0.5 20	0.1 8 15 0.5	2 20 15	1.7 200	200	6 15 0	2 15 0	0		50	25
2N4416	TO-72	30 1	0.1 20	6 15 1	5 15 15	4 400	100	4 15 0	0.8 15 0	0	4 400	50	25
2N4416A	TO-72	35 1	0.1 20	2.5 6 15 1	5 15 15	4 400	100	4 15 0	0.8 15 0	0	4 400	50	25
2N5078	TO-72	30 1	0.25 20	0.5 8 15	4 25 15	4 200	150	6 15 0	2 15 0	0	3 200	50	25
2N5245	TO-92	30 1	1 20	1 6 15 10	5 15 15	4 400	100	4.5 15 0	1 15 0	0	4 400	90	97
2N5246	TO-92	30 1	1 20	0.5 4 15 10	1.5 7 15	2.5 400	100	4.5 15 0	1 15 0	0		90	97
2N5247	TO-92	30 1	1 20	1.5 8 15 10	8 24 15	4 400	150	4.5 15 0	1 15 0	0		90	97
2N5248	TO-92	30 1	5 20	1 8 15 10	4 20 15	3 200	200	6 15 0	2 15 0	0		50	94
2N5397	TO-72	25 1	0.1 15	1 6 10 1	10 30 10	5.5 450	200	5 15 0	1.2 10 10 mA	0	3.5 450	90	29
2N5398	TO-72	25 1	0.1 15	1 6 10 1	5 40 10	5.0 450	400	5.5 10 0	1.3 10 0	0	3.2 450	90	29
2N5484	TO-92	25 1	1 20	0.3 3 15 10	1 5 15	2.5 100	75	5 15 0	1 15 0	0	3 100	50	92
2N5485	TO-92	25 1	1 20	1 4 15 10	4 10 15	3 400	100	5 15 0	1 15 0	0	4 400	50	92
2N5486	TO-92	25 1	1 20	2 6 15 10	8 20 15	3.5 400	100	5 15 0	1 15 0	0	4 400	50	92
2N5668	TO-92	25 10	2 15	0.2 4 14 10	1 5 15	1 100	50	7 15 0	3 15 0	0	2.5 100	50	92
2N5669	TO-92	25 10	2 15	1 6 15 10	4 10 15	1.6 100	100	7 15 0	3 15 0	0	2.5 100	50	92
2N5670	TO-92	25 10	2 15	2 8 15 10	8 20 15	2.5 100	150	7 15 0	3 15 0	0	2.5 100	50	92
2N5949	TO-92	300 1	1 15	3 7 15 100	12 18 15	3.0 100	75	6 15 0	2 15 0	0	5 100	50	97
2N5950	TO-92	30 1	1 15	2.5 6 15 100	10 15 15	3.0 100	75	6 15 0	2 15 0	0	5 100	50	97
2N5951	TO-92	30 1	1 15	2 5 15 100	7 13 15	3.0 100	75	6 15 0	2 15 0	0	5 100	50	97
2N5952	TO-92	30 1	1 15	1.3 3.5 15 100	4 8 15	1.0 100	75	6 15 0	2 15 0	0	5 100	50	97
2N5953	TO-92	30 1	1 15	0.8 3 15 100	2.5 5 15	1.0 100	50	6 15 0	2 15 0	0	5 100	50	97
J300	TO-92	25 1	0.5 15	1 6 10 1	6 30 10	4.5 0.001	200	5.5 10 5 mA	1.7 10 5 mA	0	12 100	90	92
J304	TO-92	30 1	0.1 20	2 6 15 1	5 15 15	14.2 400	180	13 15 0	1.8 15 0	0	14 400	50	92
J305	TO-92	30 1	0.1 20	0.5 3 15 1	1 8 15	13.0 400	180	13 15 0	1.8 15 0	0	14 400	50	92
J308	TO-92	25 1	1 15	1 6.5 10 1	12 60 10	8 0.001	200	7.5 0 -10	2.5 0 -10	0	11.5 100	92	92
J309	TO-92	25 1	1 15	1 4.0 10 1	12 30 10	10 0.001	200	7.5 0 -10	2.5 0 -10	0	11.5 100	92	92
J310	TO-92	25 1	1 15	2 6.5 10 1	24 60 10	8 0.001	200	7.5 0 -10	2.5 0 -10	0	11.5 100	92	92

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N-Channel JFETs

RF, VHF, UHF AMPLIFIERS (Continued)

Type No.	Case Style	BV _{GSS} (V) @ I _G Min	I _{GSS} (nA) @ V _{DG} Max	V _p @ V _{DS} (V) Min Max	I _{DSS} (mA) @ V _{DS} Min Max	R _{g1} Y _{fs} (mmho) @ Freq Min	R _g (V _{GS}) (μmho) @ f Max	C _{iss} (pF) @ V _{DS} Max	C _{iss} (pF) @ V _{DS} V _{GS} (V) Max	C _{rss} (pF) @ V _{DS} V _{GS} (V) Max	NF (dB) @ R _G = 1k Freq Max	Process No.	Pkg. No.
MPF102	TO-92	25	1	8 15	2	1.6 100	100 200	7 15	0	3 15	0	50	92
MPF106	TO-92	25	1	0.5 4 15	0.5	2.5 0.001		5 15	0	2 15	0	50	92
MPF107	TO-92	25	1	2 6 15	0.5	4 0.001		5 15	0	1.2 15	0	50	92
MPF108	TO-92	25	10	0.5 8 15	10	1.6 100	200 100	6.5 15	0	2.5 15	0	50	92
MPF256	TO-92	25	10	0.5 7.5 15	200 _μ	6 0.001						90	92
MPF820	TO-92	25	10	5.0 15	200 _μ	0.001						51	92
PN4223	TO-92	30	1	0.1 8 15	1	2.7 200	200 200	6 15	0	2 15	0	50	92
PN4224	TO-92	30	1	0.1 8 15	5	1.7 200	200 200	6 15	0	2 15	0	50	92
PN4416	TO-92	30	1	0.1 20	1	4 400	100 400	4 15	0	0.8 15	0	50	92
U308	TO-52	25	1	1 6 10	1	10 0.001	150 100	5 0	10 mA	2.5 0	10 mA	92	07
U309	TO-52	25	1	1 4 10	1	10 0.001	150 100	5 0	10 mA	2.5 0	10 mA	92	07
U310	TO-52	25	1	2.5 6 10	1	10 0.001	150 100	5 10	10 mA	2.5 10	10 mA	92	07
U312	TO-52	25	1	1 6 10	1	6 0.001		3.8 10	10 mA	1.2 10	10 mA	90	07

t = typical value.

*V_{DS} = 15 Vdc, R_S = 50 ohms.

LOW FREQUENCY—LOW NOISE AMPLIFIERS

Type No.	Case Style	BV _{GSS} (V) @ I _G Min	I _{GSS} (nA) @ V _{DG} Max	V _{GS(off)} (V) Min Max	I _{DSS} (mA) @ V _{DS} Min Max	g _{fs} (R _{g1} Y _{fs}) (mmho) V _{DS} Min	f (MHz)	G _{oss} (μmho) V _{DS} Max	C _{iss} (pF) V _{DS} V _{GS} (V) Max	C _{rss} (pF) V _{DS} V _{GS} (V) Max	e _n nV/√Hz @ f Max	Process No.	Pkg. No.
2N4393	TO-18	40	1.0	0.5 3.0 20	1.0	112 20	0.001		14 20	0	3.5 5 (GS)	51	02
2N5556	TO-72	30	10	0.2 4.0 15	1.0	1.5 6.5 15	0.001	20 15	6 15	0	3 15	50	25
2N5557	TO-72	30	10	0.8 5.0 15	1.0	1.5 6.5 15	0.001	20 15	6 15	0	3 15	50	25
2N5558	TO-72	30	10	1.5 6.0 15	1.0	1.5 *6.5 15	0.001	20 15	6 15	0	3 15	50	25
NF5101	TO-72	40	1	0.5 1.1 15	1.0	3.5 15	0.001	25 15	112 15	0	14 15	51	25
NF5102	TO-72	40	1	0.7 1.6 15	1.0	7.5 15	0.001	25 15	112 15	0	14 15	51	25
NF5103	TO-72	40	1	1.2 2.7 15	1.0	7.5 15	0.001	25 15	112 15	0	14 15	51	25

t = typical value

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N-Channel JFETs

LOW FREQUENCY — LOW NOISE AMPLIFIERS (Continued)

Type No.	Case Style	BVGSS (V)	I _G (μA)	I _{GSS} (nA)	V _{DG} (V)	V _{GS(off)} (V)	I _D (nA)	I _{DSS} (mA)	V _{DS} (V)	g _{fs} (mmho)	^{TR} V _{fs} (V)	f (MHz)	G _{oss} (μmho)	C _{iss} (pF)	V _{DS} (V)	V _{GS} (V)	C _{rss} (pF)	V _{DS} (V)	e _n nV/√Hz@f Max (Hz)	Process No.	Pkg. No.	
PF5101	TO-92	40	1	0.2	15	0.5	1.1	15	1.0	1	12	15	3.5	15	25	15	14	15	3.5	1000	51	92
PF5102	TO-92	40	1	0.2	15	0.7	1.6	15	1.0	4	20	15	7.5	15	25	15	14	15	3.5	1000	51	92
PF5103	TO-92	40	1	0.2	15	1.2	2.7	15	1.0	10	40	15	7.5	15	25	15	14	15	3.5	1000	51	92
PN4393	TO-92	40	1.0	0.1	20	0.5	3.0	20	1.0	5	30	20	112	20	0.001	0	3.5	5(GS)	18	10	51	92

t = typical value

ULTRA LOW INPUT CURRENT AMPS

Type No.	Case Style	BV _{GSS} (V)	I _{GSS} (pA)	I _{GSS} (μA)	V _{GS(off)} (V)	I _D (nA)	I _{DSS} (μA)	I _{DSS} (μA)	V _{DS} (V)	G _{fs} (μmho)	G _{fs} (μmho)	V _{DS} (V)	C _{iss} (pF)	V _{DS} (V)	V _{GS} (V)	C _{rss} (pF)	V _{DS} (V)	V _{GS} (V)	e _n (nV/√Hz @ f)	Process No.	Pkg. No.
2N4117	TO-72	40	1	10	20	0.6	1.8	10	1	30	90	10	3	10	0	1.5	10	0	0	53	25
2N4117A	TO-72	40	1	1	20	0.6	1.8	10	1	30	90	10	3	10	0	1.5	10	0	0	53	25
2N4118	TO-72	40	1	10	20	1	3	10	1	80	240	10	5	10	0	1.5	10	0	0	53	25
2N4118A	TO-72	40	1	1	20	1	3	10	1	80	240	10	5	10	0	1.5	10	0	0	53	25
2N4119	TO-72	40	1	10	20	2	6	10	1	200	600	10	10	10	0	1.5	10	0	0	53	25
2N4119A	TO-72	40	1	1	20	2	6	10	1	200	600	10	10	10	0	1.5	10	0	0	53	25
NF5301	TO-72	30	1	1	15	0.6	3	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
NF5301-1	TO-72	30	1	1	15	0.6	3	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
NF5301-2	TO-72	30	1	1	15	1.7	3	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
NF5301-3	TO-72	30	1	1	15	1.0	2.4	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
PF5301	TO-92	30	1	1	15	0.6	3	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
PF5301-1	TO-92	30	1	1	15	0.6	3	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
PF5301-2	TO-92	30	1	1	15	1.7	3	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
PF5301-3	TO-92	30	1	1	15	1.0	3.4	10	1	30	500	10	3	10	0	1.5	10	0	0	53	25
PN4117	TO-92	40	1	10	20	0.6	2.8	10	1	30	90	10	3	10	0	1.5	10	0	0	53	92
PN4117A	TO-92	40	1	1	20	0.6	2.8	10	1	30	90	10	3	10	0	1.5	10	0	0	53	92
PN4118	TO-92	40	1	10	20	1	3	10	1	80	240	10	5	10	0	1.5	10	0	0	53	92
PN4118A	TO-92	40	1	1	20	1	3	10	1	80	240	10	5	10	0	1.5	10	0	0	53	92
PN4119	TO-92	40	1	10	20	2	6	10	1	200	600	10	10	10	0	1.5	10	0	0	53	92
PN4119A	TO-92	40	1	1	20	2	6	10	1	200	600	10	10	10	0	1.5	10	0	0	53	92

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N-Channel JFETs

GENERAL PURPOSE AMPS

Type No.	Case Style	BV _{GSS} (V) @ I _G Min	I _{GSS} (nA) @ V _{DS} Max	V _p @ V _{DS} (V) Min Max	I _{DSS} (mA) @ V _{DS} Min Max	G _{fs} (mmho) @ V _{DS} Min Max	G _{oss} (μmho) @ V _{DS} Max	C _{iss} (pF) @ V _{DS} Max	C _{rss} (pF) @ V _{DS} Max	e _n (NV) √Hz @ Freq Max (Hz)	Process No.	Pkg. No.
2N3369	TO-18	40	1	5	30	0.6	2.5	30	3	30	0	02
2N3370	TO-18	40	1	5	30	0.3	2.5	30	3	30	0	02
2N3458	TO-18	50	1	0.25	30	2.5	10	20	5	30	0	02
2N3459	TO-18	50	1	0.25	30	1.5	6	20	5	30	0	02
2N3460	TO-18	50	1	0.25	30	0.8	4.5	20	5	30	0	02
2N3684	TO-72	50	1	0.1	30	2	3	20	1.2	20	0	25
2N3685	TO-72	50	1	0.1	30	1	3	20	1.2	20	0	25
2N3686	TO-72	50	1	0.1	30	0.6	2	20	1.2	20	0	25
2N3687	TO-72	50	1	0.1	30	0.3	1.2	20	1.2	20	0	25
2N3821	TO-72	50	1	0.1	30	0.5	2.5	15	3	15	0	25
2N3822	TO-72	50	1	0.1	30	0.5	2.5	15	3	15	0	25
2N3967	TO-72	30	1	0.1	20	2	5	20	1.3	20	0	25
2N3967A	TO-72	30	1	0.1	20	2	5	20	1.3	20	0	25
2N3968	TO-72	30	1	0.1	20	2	5	20	1.3	20	0	25
2N3968A	TO-72	30	1	0.1	20	2	5	20	1.3	20	0	25
2N3969	TO-72	30	1	0.1	20	1.3	20	5	1.3	20	0	25
2N3969A	TO-72	30	1	0.1	20	1.3	20	5	1.3	20	0	25
2N4220	TO-72	30	10	0.1	15	1	4	15	2	15	0	25
2N4220A	TO-72	30	10	0.1	15	1	4	15	2	15	0	25
2N4221	TO-72	30	10	0.1	15	2	5	15	2	15	0	25
2N4221A	TO-72	30	10	0.1	15	2	5	15	2	15	0	25
2N4222	TO-72	30	10	0.1	15	2.5	6	15	2	15	0	25
2N4222A	TO-72	30	10	0.1	15	2.5	6	15	2	15	0	25
2N4338	TO-18	50	1	0.1	30	0.6	1.8	15	3	15	0	02
2N4339	TO-18	50	1	0.1	30	0.6	1.8	15	3	15	0	02
2N4340	TO-18	50	1	0.1	30	1	3	15	3	15	0	02
2N4341	TO-18	50	1	0.1	30	2	6	15	3	15	0	02
2N5103	TO-72	25	10	0.1	15	0.5	4	15	1	15	0	25
2N5104	TO-72	25	1	0.1	15	0.5	4	15	1	15	0	25

■ I_D = 1 mA; † I_D = 500 μA; †† I_D = 40 μA; ††† I_D = 100 μA; † I_D = 250 μA.
t = typical value.

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N-Channel JFETs

GENERAL PURPOSE AMPS (Continued)

Type No.	Case Style	BV _{GSS} -BV _{GDO} (V) @ I _g Min (μA)	I _{GSS} (nA) @ V _{DG} Max (V)	V _P @ V _{DS} (V) @ V _{DS} Min Max (V)	I _{DSS} (mA) @ V _{DS} Min Max (V)	G _{fs} (mmho) @ V _{DS} Min Max (V)	G _{oss} (μmho) @ V _{DS} Max (V)	C _{iss} (pF) @ V _{DS} Max (V)	C _{rss} (pF) @ V _{DS} Max (V)	e _n (nV) (√Hz) @ Freq Max (Hz)	Process No.	Pkg. No.
2N5105	TO-72	25	1	0.5	4	15	1	5	10	15	50	25
2N5358	TO-72	40	1	0.5	3	15	100	1	15	0	55	25
2N5359	TO-72	40	1	0.1	20	0.8	15	10	15	0	55	25
2N5360	TO-72	40	1	0.1	20	0.8	15	10	15	0	55	25
2N5361	TO-72	40	1	0.1	20	0.8	15	10	15	0	55	25
2N5362	TO-72	40	1	0.1	20	0.8	15	10	15	0	55	25
2N5363	TO-72	40	1	0.1	20	0.8	15	10	15	0	55	25
2N5364	TO-72	40	1	0.1	20	0.8	15	10	15	0	55	25
2N5457	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
2N5458	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
2N5459	TO-92	30	1	0.1	20	0.8	15	10	15	0	55	25
2N5556	TO-72	30	1	0.1	20	0.8	15	10	15	0	55	25
2N5557	TO-72	30	1	0.1	20	0.8	15	10	15	0	55	25
2N5558	TO-72	30	1	0.1	20	0.8	15	10	15	0	55	25
J201	TO-92	40	1	0.1	20	0.8	15	10	15	0	55	25
J202	TO-92	40	1	0.1	20	0.8	15	10	15	0	55	25
J203	TO-92	40	1	0.1	20	0.8	15	10	15	0	55	25
J210	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
J211	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
J212	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF103	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF104	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF105	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF109	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF110	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF111	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
MPF112	TO-92	25	1	0.1	20	0.8	15	10	15	0	55	25
PN3684	TO-92	50	1	0.1	30	1	30	1	30	1	55	25
PN3685	TO-92	50	1	0.1	30	1	30	1	30	1	55	25
PN3686	TO-92	50	1	0.1	30	1	30	1	30	1	55	25

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GENERAL PURPOSE AMPS (Continued)

Type No.	Case Style	BV _{GSS} -BV _{GDO} (V) @ I _g (μA)	I _{GSS} (nA) @ V _{DG} (V)	V _p @ V _{DS} (V)	I _{DSS} (mA) @ V _{DS} (V)	G _{fs} (mmho) @ V _{DS} (V)	G _{oss} (μmho) @ V _{DS} (V)	C _{iss} (pF) @ V _{DS} (V)	C _{rss} (pF) @ V _{DS} (V)	e _n (NV/√Hz) @ Freq (Hz)	Process No.	Pkg. No.
PN3687	TO-92	50	1	0.3	0.1	0.5	5	4	1.2	150	52	92
PN4220	TO-92	30	10	4	0.5	1	10	6	2	20	55	92
PN4221	TO-92	30	10	6	2	2	20	6	2	15	55	92
PN4222	TO-92	30	10	8	5	2.5	40	6	2	15	55	92
PN4302	TO-92	30	1	4	0.5	1	50	6	3	100	52	92
PN4303	TO-92	30	1	6	4	2	50	6	3	100	52	92
PN4304	TO-92	30	1	10	0.5	1	50	6	3	125	52	92
PN5163	TO-92	25	1	0.4	1	2	200	12	3	50	50	92
TIS58	TO-92	25	1	0.5	2.5	1.3	15	6	3	15	50	94
TIS59	TO-92	25	1	1	6	1.3	15	6	3	15	50	94

■ I_D = 1 mA; † I_D = 500 μA; †† I_D = 40 μA; ** I_D = 100 μA; †† I_D = 250 μA.

t = typical value.

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JFET Selection Guide

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6501130 NATL SEMICOND, (DISCRETE)

JFET Selection Guide

N-Channel JFETs

GENERAL PURPOSE DUAL JFETs



Type No.	Case Style	Operating Conditions For These Characteristics										Process No.	Pkg. No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		On Char.		V _{GS-2}		Drift		G _{fs}		G _{oss}				CMRR		V _{gs}																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		V _{DS}	I _D	V _{DS}	I _D	ΔV _{GS}	I _g	μmhos	Min	Max	μmhos			Min	Max	(dB)	Min	Max																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
2N3921	TO-71	10	700	5	10	250	1500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

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T-29-27

6501130 NATL SEMICOND, (DISCRETE)

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N-Channel JFETs

GENERAL PURPOSE DUAL JFETs (Continued)

Type No.	Case Style	Operating Conditions For These Characteristics															Process No.	Pkg. No.									
		Op. Char. V _{DS} (V)	I _D (μA)	V _{GS} (V)	ΔI _{GS} (mV)	Drift (μV/°C)	I _g (pA)	G _{SS} (μmhos)	CMRR (dB)	V _{GS} (V)	V _p (V)	I _{DSS} (mA)	G _{SS} (mmho)	G _{SS} (pA) @ V _{DS}	C _{iss} (pF)	BV (V)			e _n (nV/√Hz) Max	I _{DSS} Match %	G _{SS} Match %	G _{SS} 125°C (nA)					
J411	Mini-	20	200	25	250	600	1200	5	0.3	4	0.5	3.5	0.5	6	1	4	20	250	20	4.5	1.2	40	50	100	83	80	
J412	DIP	20	200	40	80	250	600	1200	5	0.3	4	0.5	3.5	0.5	6	1	4	20	250	20	4.5	1.2	40	50	100	83	60
NP08301	8-Pin	20	200	5	10	100	700	1200	5	0.3	4	0.5	3.5	0.5	6	1	4	20	100	20	4.5	1.2	40	50	100	83	67
NP08302	Mini-	20	200	10	15	100	700	1200	5	0.3	4	0.5	3.5	0.5	6	1	4	20	100	20	4.5	1.2	40	50	100	83	67
NP08303	DIP	20	200	15	25	100	700	1200	5	0.3	4	0.5	3.5	0.5	6	1	4	20	100	20	4.5	1.2	40	50	100	83	67
U231	TO-71	20	200	5	10	50	600	10	0.3	4	See 2N3954 as an improved replacement															83	12
U232	TO-71	20	200	10	25	50	600	10	0.3	4	See 2N3955 as an improved replacement															83	12
U233	TO-71	20	200	15	50	50	600	10	0.3	4	See 2N3956 as an improved replacement															83	12
U234	TO-71	20	200	20	75	50	600	10	0.3	4	See 2N3957 as an improved replacement															83	12
U235	TO-71	20	200	25	100	50	600	10	0.3	4	See 2N3958 as an improved replacement															83	12
U401	TO-71	10	200	5	15	1000	1600	2	95	2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10	98	12	
U402	TO-71	10	200	10	10	15	1000	1600	2	95	2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10	98	12
U403	TO-71	10	200	10	25	15	1000	1600	2	95	2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10	98	12
U404	TO-71	10	200	15	25	15	1000	1600	2	95	2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10	98	12
U405	TO-71	10	200	20	40	15	1000	1600	2	90	2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10	98	12
U406	TO-71	10	200	40	80	15	1000	1600	2	90	2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10	98	12

I_D = 100 μA for V_{GS} for 2N5561/23 only.

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LOW FREQUENCY—LOW NOISE DUAL JFETs

Type No.	Case Style	Operating Conditions For These Characteristics																Process No.	Pkg. No.													
		Op. Char. V _{DS} (V)	I _D (μA)	V _{GS1-2} V _{DS} (mV)		Drift ΔV _{GS} (mV)	I _g (pA)		G _{SS} (μmho)		CHRR (dB)		V _g (°)		I _{DSS} (mA)		G _{SS} (mmho)			C _{iss} (pF)	BV (V)	e _n (nV/√Hz)@1 kHz	I _{DSS} Match %	G _{SS} Match %	G _{SS1-2} (μmho)	I _{g1-2} 125°C (nA)						
				Max	Min		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max										Min	Max	Min	Max	Min	Max
2N5515	TO-71	20	200	5	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	30	10	5	3	0.1	10	95	12	
2N5516	TO-71	20	200	5	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	30	10	5	3	0.1	10	95	12	
2N5517	TO-71	20	200	10	200	500	1000	1	90	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	30	10	5	5	0.1	10	95	12	
2N5518	TO-71	20	200	15	400	500	1000	1	90	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	30	10	5	5	0.1	10	95	12	
2N5519	TO-71	20	200	15	80	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	30	10	10	0.1	10	95	12	
2N5520	TO-71	20	200	5	5	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	15	10	5	3	0.1	10	95	12
2N5521	TO-71	20	200	5	10	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	15	10	5	3	0.1	10	95	12
2N5522	TO-71	20	200	10	20	100	500	1000	1	90	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	15	10	5	5	0.1	10	95	12
2N5523	TO-71	20	200	15	40	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	15	10	5	5	0.1	10	95	12
2N5524	TO-71	20	200	15	80	100	500	1000	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	15	10	10	0.1	10	95	12	
2N5483	TO-71	20	200	5	5	100	500	1500	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	200	30	20	3.5	50	10	10	5	3	0.1	10	95	12
2N5484	TO-71	20	200	10	10	100	500	1500	1	100	0.2	3.8	0.7	4	0.5	7.5	1	4	10	200	30	20	3.5	50	10	10	5	3	0.1	10	95	12
2N5485	TO-71	20	200	15	25	100	500	1500	1	90	0.2	3.8	0.7	4	0.5	7.5	1	4	10	200	30	20	3.5	50	10	10	5	5	0.1	10	95	12

JFET Selection Guide

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JFET Selection Guide

N-Channel JFETs

WIDE BAND—LOW NOISE DUAL JFETs



Type No.	Case Style	Operating Conditions For These Characteristics																Process No.	Pkg. No.											
		V _{GS1-2}				Drift				V _{GS}				V _p	I _{DSS}					G _{fs}				G _{ss}	I _{DSS}	G _{fs}	I _{DSS}	G _{ss1-2}	I _{G1-2}	
		Op. Char.	V _{DG}	I _D	V _{GS}	ΔV _{GS}	I _q	G _{fs}	G _{ss}	CMRR	V _{GS}	Min	Max		Min	Max	Min			Max	Min	Max	Min							Max
2N5564	TO-71	15	2000	5	10	7500	45				0.5	3	5	30	100	20	12	3	40	50	10	5	5						96	12
2N5565	TO-71	15	2000	10	25	7500	45				0.5	3	5	30	100	20	12	3	40	50	10	5	10						96	12
2N5566	TO-71	15	2000	20	50	7500	45				0.5	3	5	30	100	20	12	3	40	50	10	5	10						96	12
2N5911	TO-78	10	5000	10	20	100	5000	10,000	100	0.3	4	1	5	7	40	100	15	5	1.2	25	20	10,000	5	5	20	93	24	93	24	
2N5912	TO-78	10	5000	15	40	100	5000	10,000	100	0.3	4	1	5	7	40	100	15	5	1.2	25	20	10,000	5	5	20	93	24	93	24	
NPD5564	8-Pin	15	2000	5	10	7500	45				0.5	3	5	30	100	20	12	3	40	50	10	5	5						96	67
NPD5565	Mini-	15	2000	10	25	7500	45				0.5	3	5	30	100	20	12	3	40	50	10	5	10						96	67
NPD5566	DIP	15	2000	20	50	7500	45				0.5	3	5	30	100	20	12	3	40	50	10	5	10						96	67
U257	TO-78	10	5000	100		5000	10,000	150			1	5	5	40	100	15	5	1.2	25	30	10,000	15	15	20					93	24

LOW LEAKAGE—HIGH CMRR—WIDE BAND DUAL JFETs



Type No.	Case Style	Operating Conditions For These Characteristics																		Process No.	Pkg. No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		V _{GS1-2}				V _p				G _{fs}				I _{DSS}				G _{ss}				I _{GSS}				C _{iss}				B _V				e _n				I _{DSS}				G _{fs}				G _{ss1-2}				I _{G1-2}																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		Op. Char.	V _{DG}	I _D	V _{GS}	Drift	I _{GPA}	V _{DG}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR			V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR	V _{GS}	I _D	V _{GS}	CMRR

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N-Channel JFETs

ULTRA LOW LEAKAGE DUALS

[illegible]

Process In Development

o JFET Selection Guide

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JFET Selection Guide

6501130 NATL SEMICOND. (DISCRETE)

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P-Channel JFETs

SWITCHES

Type No.	Case Style	BV _{GSS} BV _{GDO} (V) @ I _G Min (μA)	I _{GSS} (nA) @ V _{DG} Max (V)	I _{D(off)} (nA) @ V _{DS} Max (V)	V _p @ V _{DS} (V) @ V _{DS} Min Max	I _{DSS} (mA) @ V _{DS} Min Max	I _{ds} (Ω) @ I _D Max (mA)	C _{iss} (pF) @ V _{DS} Max (V)	C _{rss} (pF) @ V _{DS} Max (V)	t _{on} (ns) Max	t _{off} (ns) Max	Process No.	Pkg. No.
2N5018	TO-18	30 1	2 15	10 -15 12	10 -15 1	10 20	75	45 -15 0	10 0 12	35	65	88	11
2N5019	TO-18	30 1	2 15	10 -15 7	5 -15 1	20	150	45 -15 0	10 0 7	90	125	88	11
2N5114	TO-18	30 1	0.5 20	0.5 -15 12	5 10 -15 0.001	30 90	75	25 -15 0	7 0 12	16	21	88	11
2N5115	TO-18	30 1	0.5 20	0.5 -15 7	3 6 -15 0.001	16 60	100	25 -15 0	7 0 7	30	38	88	11
2N5116	TO-18	30 1	0.5 20	0.5 -15 5	1 4 -15 0.001	5 25	150	25 -15 0	7 0 5	42	60	88	11
J174	TO-92	30 1	1 20	1 -15 10	5 10 -15 0.01	20 100	85	11 0 10	5.5 0 10	2	5	88	94
J175	TO-92	30 1	1 20	1 -15 10	3 6 -15 0.01	7 60	125	11 0 10	5.5 0 10	5	10	88	94
J176	TO-92	30 1	1 20	1 -15 10	1 4 -15 0.01	2 25	250	11 0 10	5.5 0 10	15	15	88	94
J177	TO-92	30 1	1 20	1 -15 10	0.8 2.25 -15 0.01	1.5 20	300	11 0 10	5.5 0 10	20	20	88	94
P1086	TO-92	30 1	2 15	10 -15 12	10 -15 1	10 20	75	45 -15 0	10 0 12	35	65	88	92
P1087	TO-92	30 1	2 15	10 -15 7	5 -15 1	20	150	45 -15 0	10 0 7	90	125	88	92