

6501130 NATL SEMICOND, (DISCRETE)

28C 35470 D

T-31-25

JFET Selection Guide

N-Channel JFETs

RF, VHF, UHF AMPLIFIERS



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

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N-Channel JFETs

RF, VHF, UHF AMPLIFIERS (Continued)

Type No.	Case Style	BVGSS (V) @ I _G (μA)	I _{GSS} (nA) @ V _{DG} (V)	V _p @ V _{DG} (V)	I _D (nA)	I _{DSS} (mA) @ V _{DG} (V)	R _g Y _{fs} (mmho) @ Freq (MHz)	R _g (Y _{os}) (μmho) @ f (MHz)	C _{iss} (pF) @ V _{DG} (V)	C _{iss} (pF) @ V _{DG} (V)	C _{rss} (pF) @ V _{DG} (V)	NF (dB) @ R _G = 1k (MHz)	Process No.	Pkg. No.			
MPF102	TO-92	25	1	8	15	2	1.6	100	7	15	0	3	15	0	50	92	
MPF106	TO-92	25	1	0.5	4	15	2.5	0.001	5	15	0	2	15	0	50	92	
MPF107	TO-92	25	1	2	6	15	4	0.001	5	15	0	1.2	15	0	50	92	
MPF108	TO-92	25	10	0.5	8	15	1.6	100	6.5	15	0	2.5	15	0	50	92	
MPF256	TO-92	25	10	0.5	7.5	15	6	0.001	3	18	15	0	2.0	100	90	92	
MPF820	TO-92	25	10	5.0	15	200k	0.001	0.001	10	15	0	2	15	0	51	92	
PN4223	TO-92	30	1	0.1	8	15	2.7	200	6	15	0	2	15	0	50	92	
PN4224	TO-92	30	1	0.1	8	15	1.7	200	6	15	0	2	15	0	50	92	
PN4416	TO-92	30	1	0.1	6	15	4	400	4	15	0	0.8	15	0	50	92	
U308	TO-52	25	1	1	6	10	10	0.001	5	0	10 mA	2.5	0	10 mA	13	450	07
U309	TO-52	25	1	1	4	10	10	0.001	5	0	10 mA	2.5	0	10 mA	13	450	07
U310	TO-52	25	1	2.5	6	10	10	0.001	5	10	10 mA	2.5	10	10 mA	13	450	07
U312	TO-52	25	1	1	6	10	6	0.001	3.8	10	10 mA	1.2	10	10 mA	13.5	450	07

t = typical value.

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

LOW FREQUENCY—LOW NOISE AMPLIFIERS

Type No.	Case Style	BVGSS (V) @ I _G (μA)	I _{GSS} (nA) @ V _{DG} (V)	V _{GSOFF} (V) @ V _{DG} (V)	I _D (nA)	I _{DSS} (mA) @ V _{DG} (V)	g _{fs} (R _g) (Y _{fs}) (mmho) @ V _{DG} (V)	f (MHz)	G _{oss} (μmho) @ V _{DG} (V)	C _{iss} (pF) @ V _{DG} (V)	C _{iss} (pF) @ V _{DG} (V)	C _{rss} (pF) @ V _{DG} (V)	e _n (nV/√Hz) @ f (Hz)	Process No.	Pkg. No.		
2N4393	TO-18	40	1.0	0.5	3.0	20	112	20	20	15	0	3.5	5 (GS)	51	02		
2N5556	TO-72	30	10	0.2	4.0	15	1.5	6.5	15	6	15	0	3	15	50	25	
2N5557	TO-72	30	10	0.8	5.0	15	1.5	6.5	15	6	15	0	3	15	50	25	
2N5558	TO-72	30	10	1.5	6.0	15	1.5	*6.5	15	6	15	0	3	15	50	25	
NF5101	TO-72	40	1	0.5	1.1	15	3.5	15	25	15	112	15	0	14	15	51	25
NF5102	TO-72	40	1	0.7	1.6	15	7.5	15	25	15	112	15	0	14	15	51	25
NF5103	TO-72	40	1	1.2	2.7	15	7.5	15	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	BV _{GSS} (V)	I _G (μA)	I _{GSS} (nA)	I _{DG} (V)	V _{GS(off)} (V)	I _D (nA)	I _{DSS} (mA)	V _{DS} (V)	g _{fs} (mmho)	g _{fs} (P _{ce}) (V _{DS}) (mmho)	f (MHz)	G _{oss} (μmho)	V _{DS} (V)	C _{iss} (pF)	V _{DS} (V)	V _{GS} (V)	C _{rss} (pF)	V _{DS} (V)	e _n (nV/√Hz)	Process No.	Pkg. No.	
PF5101	TO-92	40	1	0.2	15	0.5	1.1	15	1.0	3.5	15	0.001	25	15	112	15	0	14	15	3.5	1000	51	92
PF5102	TO-92	40	1	0.2	15	0.7	1.6	15	1.0	7.5	15	0.001	25	15	112	15	0	14	15	3.5	1000	51	92
PF5103	TO-92	40	1	0.2	15	1.2	2.7	15	1.0	7.5	15	0.001	25	15	112	15	0	14	15	3.5	1000	51	92
PN4393	TO-92	40	1.0	0.1	20	0.5	3.0	20	1.0	112	20	0.001			14	20	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 _G (μA)	I _{GSS} (pA)	V _{DG} (V)	V _P (V)	I _D (nA)	I _{DSS} (μA)	V _{DS} (V)	G _{fs} (μmho)	V _{DS} (V)	G _{oss} (μmho)	V _{DS} (V)	C _{iss} (pF)	V _{DS} (V)	V _{GS} (V)	C _{rss} (pF)	V _{DS} (V)	V _{GS} (V)	Process No.	Pkg. No.
2N4117	TO-72	40	1	10	20	0.6	1.8	10	1	20	210	3	10	3	10	0	1.5	10	0	53	25
2N4117A	TO-72	40	1	1	20	0.6	1.8	10	1	70	210	3	10	3	10	0	1.5	10	0	53	25
2N4118	TO-72	40	1	10	20	1	3	10	1	80	250	5	10	3	10	0	1.5	10	0	53	25
2N4118A	TO-72	40	1	1	20	1	3	10	1	80	250	5	10	3	10	0	1.5	10	0	53	25
2N4119	TO-72	40	1	10	20	2	6	10	1	100	330	10	10	3	10	0	1.5	10	0	53	25
2N4119A	TO-72	40	1	1	20	2	6	10	1	100	330	10	10	3	10	0	1.5	10	0	53	25
NF5301	TO-72	30	1	1	15	0.6	3	10	1	70	300	10		3	10	0	1.5	10	0	53	25
NF5301-1	TO-72	30	1	1	15	0.6	1.8	10	1	30	500	10		3	10	0	1.5	10	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	53	25
NF5301-3	TO-72	30	1	1	15	1.0	-2.4	10	1	70	300	10		3	10	0	1.5	10	0	53	25
PF5301	TO-92	40	1	1	15	0.6	3	10	1	30	500	10		3	10	0	1.5	10	0	53	92
PF5301-1	TO-92	40	1	1	15	0.6	1.8	10	1	30	500	10		3	10	0	1.5	10	0	53	92
PF5301-2	TO-92	40	1	1	15	1.7	3	10	1	30	500	10		3	10	0	1.5	10	0	53	92
PF5301-3	TO-92	40	1	1	15	1.0	3.4	10	1	70	300	10		3	10	0	1.5	10	0	53	92
PN4117	TO-92	40	1	10	20	0.6	2.8	10	1	30	90	3	10	3	10	0	1.5	10	0	53	92
PN4117A	TO-92	40	1	1	20	0.6	2.8	10	1	70	210	3	10	3	10	0	1.5	10	0	53	92
PN4118	TO-92	40	1	10	20	1	3	10	1	80	240	5	10	3	10	0	1.5	10	0	53	92
PN4118A	TO-92	40	1	1	20	1	3	10	1	80	240	5	10	3	10	0	1.5	10	0	53	92
PN4119	TO-92	40	1	10	20	2	6	10	1	200	600	10	10	3	10	0	1.5	10	0	53	92
PN4119A	TO-92	40	1	1	20	2	6	10	1	200	600	10	10	3	10	0	1.5	10	0	53	92

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GENERAL PURPOSE AMPS

Type No.	Case Style	BV _{GSS} *BV _{GDO} (V) @ I _G Min (μA)	I _{GSS} (mA) @ V _{DG} Max (V)	V _p @ V _{DG} (V) Min Max (V)	I _D (mA) Min Max (V)	I _{DSS} (mA) @ V _{DG} Min Max (V)	G _{fs} (mmho) @ V _{DG} Min Max (V)	G _{oss} (μmho) @ V _{DG} Max (V)	C _{iss} (pF) @ V _{DG} Max (V)	V _{GS} (V)	C _{rss} @ V _{DG} (pF) @ V _{GS} Max (V)	e _n (NV) √Hz @ Freq Max (Hz)	Process No.	Pkg. No.
2N3369	TO-18	40	5	6.5	20	0.5	2.5	30	20	8	3	30	52	02
2N3370	TO-18	40	5	3.2	20	0.1	0.6	30	20	8	3	30	52	02
2N3458	TO-18	50	0.25	7.8	20	3	15	20	35	30	5	30	52	02
2N3459	TO-18	50	0.25	3.4	20	0.8	4	20	20	30	5	30	52	02
2N3460	TO-18	50	0.25	1.8	20	0.2	1	20	5	30	5	30	52	02
2N3684	TO-72	50	0.1	2	5	2.5	7.5	20	4	20	1.2	20	52	25
2N3685	TO-72	50	0.1	3.5	20	1	3	20	4	20	1.2	20	52	25
2N3686	TO-72	50	0.1	0.6	2	0.4	1.2	20	4	20	1.2	20	52	25
2N3687	TO-72	50	0.1	0.3	1.2	0.1	0.5	20	4	20	1.2	20	52	25
2N3821	TO-72	50	0.1	4	15	0.5	2.5	15	6	15	3	15	55	25
2N3822	TO-72	50	0.1	6	15	2	10	15	6	15	3	15	55	25
2N3967	TO-72	30	0.1	2	5	2.5	10	20	5	20	1.3	20	55	25
2N3967A	TO-72	30	0.1	2	5	2.5	10	20	5	20	1.3	20	55	25
2N3968	TO-72	30	0.1	3	20	1	5	20	5	20	1.3	20	55	25
2N3968A	TO-72	30	0.1	3	20	1	5	20	5	20	1.3	20	55	25
2N3969	TO-72	30	0.1	1.7	20	0.4	2	20	5	20	1.3	20	55	25
2N3969A	TO-72	30	0.1	1.7	20	0.4	2	20	5	20	1.3	20	55	25
2N4220	TO-72	30	0.1	4	15	0.5	3	15	10	15	2	15	55	25
2N4220A	TO-72	30	0.1	4	15	0.5	3	15	10	15	2	15	55	25
2N4221	TO-72	30	0.1	6	15	0.1	2	6	6	15	2	15	55	25
2N4221A	TO-72	30	0.1	6	15	0.1	2	6	6	15	2	15	55	25
2N4222	TO-72	30	0.1	8	15	0.1	5	15	20	15	2	15	55	25
2N4222A	TO-72	30	0.1	8	15	0.1	5	15	20	15	2	15	55	25
2N4338	TO-18	50	0.1	0.3	1	100	0.2	0.6	5	15	3	15	52	02
2N4339	TO-18	50	0.1	0.6	1.8	100	0.5	1.5	7	15	3	15	52	02
2N4340	TO-18	50	0.1	1	3	100	1.2	3.6	7	15	3	15	52	02
2N4341	TO-18	50	0.1	2	6	100	3	9	7	15	3	15	55	25
2N5103	TO-72	25	0.1	0.5	4	15	1	8	5	15	1	15	50	25
2N5104	TO-72	25	0.1	0.5	4	15	1	8	5	15	1	15	50	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 (μA)	I _{GSS} (mA) @ V _{DG} Max (V)	V _p @ V _{DG} (V) Min Max (V)	I _{DSS} (mA) @ V _{DG} Min Max (V)	G _{fs} (mmho) @ V _{DG} Min Max (V)	G _{oss} (μmho) @ V _{DG} Max (V)	C _{iss} (pF) @ V _{DG} Max (V)	C _{rss} (pF) @ V _{DG} Max (V)	e_n (NV/√Hz) @ Freq Max (Hz)	Process No.	Pkg. No.
2N5105	TO-72	25	0.1	0.5	5	5	100	5	1	0	50	25
2N5358	TO-72	40	0.1	0.5	1	1	10	6	2	0	55	25
2N5359	TO-72	40	0.1	0.8	0.6	1.2	10	6	2	0	55	25
2N5360	TO-72	40	0.1	0.8	1.5	1.4	15	6	2	0	55	25
2N5361	TO-72	40	0.1	1	2.5	1.5	20	6	2	0	55	25
2N5362	TO-72	40	0.1	2	4	2	15	6	2	0	55	25
2N5363	TO-72	40	0.1	2.5	7	2.5	40	6	2	0	55	25
2N5364	TO-72	40	0.1	2.5	9	2.7	40	6	2	0	55	25
2N5457	TO-92	25	1	0.5	1	2	60	7	3	0	55	25
2N5458	TO-92	25	1	1	2	1.5	50	7	3	0	55	92
2N5459	TO-92	25	1	2	4	2	50	7	3	0	55	92
2N5556	TO-72	30	0.1	0.2	0.5	1.5	20	6	3	0	55	25
2N5557	TO-72	30	0.1	0.8	2	1.5	15	6	3	0	55	25
2N5558	TO-72	30	0.1	1.5	4	1.5	20	6	3	0	55	25
J201	TO-92	40	0.1	0.3	0.2	0.5	11	15	12	0	90	92
J202	TO-92	40	0.1	0.8	0.9	1	10	15	12	0	90	92
J203	TO-92	40	0.1	2	4	1.5	20	15	12	0	90	92
J210	TO-92	25	0.1	1	2	4	15	15	11.5	0	90	92
J211	TO-92	25	0.1	2.5	7	7	15	15	11.5	0	90	92
J212	TO-92	25	0.1	4	15	7	15	15	11.5	0	90	92
MPF103	TO-92	25	1	6	1	1	50	7	3	0	55	92
MPF104	TO-92	25	1	7	2	1.5	50	7	3	0	55	92
MPF105	TO-92	25	1	8	4	2	50	7	3	0	55	92
MPF109	TO-92	25	10	0.2	0.5	0.8	75	7	3	0	55	92
MPF110	TO-92	20	100	0.5	0.5	0.5	10	7	3	0	55	92
MPF111	TO-92	20	100	0.5	0.5	0.5	200	10	4	0	50	92
MPF112	TO-92	25	100	0.5	1	1	50	4	1.2	0	50	92
PN3684	TO-92	50	0.1	2	2.5	2	25	4	1.2	0	52	92
PN3685	TO-92	50	0.1	3.5	1	1.5	20	4	1.2	0	52	92
PN3686	TO-92	50	0.1	0.6	0.4	1	10	4	1.2	0	52	92

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N-Channel JFETs

GENERAL PURPOSE AMPS (Continued)



Type No.	Case Style	BV _{GSS} -BV _{GDO} (V) @ I _g Min	I _{GSS} (mA) @ V _{DG} Max (V)	V _p @ V _{DS} (V) Min Max	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 _{ras} (pF) @ V _{DS} Max (V)	e _n (NV) (√Hz) @ Freq Max (Hz)	Process No.	Pkg. No.
PN3687	TO-92	50	0.1	0.3	0.1	0.5	5	4	1.2	150	52	92
PN4220	TO-92	30	0.1	4	0.5	1	10	6	2	20	55	92
PN4221	TO-92	30	0.1	6	2	5	20	6	2	15	55	92
PN4222	TO-92	30	0.1	8	5	6	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	94
TIS58	TO-92	25	1	0.5	2.5	1.3	15	6	3	1000	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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GENERAL PURPOSE DUAL JFETS



Type No.	Case Style	Operating Conditions For These Characteristics												Process No.	Pkg. No.																											
		Op. Char. V _{GS} (V)	I _D (μA)	V _{GS} (V/C)	Drift (μV/C)	I _G (pA)	ΔV _{GS} (mV)	g _{fs} (μmhos)	G _{oss} (μmho)	CMRR (dB)	V _{gs} (V)	V _p (V)	I _{DSS} (mA)			G _{fs} (mmho)	G _{oss} (μmho)	I _{DSS} (pA @ V _{GS})	C _{iss} (pF)	C _{rss} (pF)	BV (V)	r _n (nV/√Hz @ f _{max})	I _{DSS} Match %	G _{fs} Match %	G _{oss} 125°C (nA)																	
2N3921	TO-71	10	700	5	10	250	1500	20	20	5	3.0	1	10	1.5	7.5	35	1000	30	18	6	50	100	1000	5								83	12									
2N3922	TO-71	10	700	5	25	250	1500	20	20	3.0	1	10	1.5	7.5	35	1000	30	18	6	50	100	1000	5									83	12									
2N3934	TO-71	10	200	5	10	100	300	5	5	See 2N3954-6 as an improved replacement																												83	12			
2N3935	TO-71	10	200	5	25	100	300	5	5	See 2N3954-6 as an improved replacement																														83	12	
2N3954A	TO-71	20	200	5	5	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	3										83	12						
2N3954	TO-71	20	200	5	10	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	3										83	12						
2N3955A	TO-71	20	200	5	15	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	3										83	12						
2N3955	TO-71	20	200	10	25	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	5										83	12						
2N3956	TO-71	20	200	15	50	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	5										83	12						
2N3957	TO-71	20	200	20	75	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	10	10										83	12						
2N3958	TO-71	20	200	25	100	50				1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	15	15											83	12					
2N4082	TO-71	10	200	15	10	100	300			See 2N3954-6 as an improved replacement																													83	12		
2N4083	TO-71	10	200	15	25	100	300			See 2N3954-6 as an improved replacement																															83	12
2N4084	TO-71	10	700	15	10	250	1500			3	1	10	1.5	7.5	35	1000	30	18	6	50	100	1000	5	5													83	12				
2N4085	TO-71	10	700	15	25	250	1500			3	1	10	1.5	7.5	35	1000	30	18	6	50	100	1000	5	5													83	12				
2N5045	TO-71	15	200	5.0	67					0.5	4.5	0.5	8	1.5	6	25	250	30	8	4	50	200	10														83	12				
2N5046	TO-71	15	200	10	133					0.5	4.5	0.5	8	1.5	6	25	250	30	8	4	50	200	10														83	12				
2N5047	TO-71	15	200	15	200					0.5	4.5	0.5	8	1.5	6	25	250	30	8	4	50	200	10														83	12				
2N5198	TO-71	20	200	5	5	15	700	1500		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	3	1										83	12			
2N5197	TO-71	20	200	5	10	15	700	1500		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	3	1										83	12			
2N5198	TO-71	20	200	10	20	15	700	1500		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	5	1										83	12			
2N5452	TO-71	20	200	5	5	40	17	700	1500		0.2	4.2	1	4.5	0.5	5	1	3	3	100	30	4	12	50	20	1000	5	5	1									83	12			
2N5453	TO-71	20	200	10	10					0.2	4.2	1	4.5	0.5	5	1	3	3	100	30	4	12	50	20	1000	5	3	0.25									83	12				
2N5454	TO-71	20	200	15	25					0.2	4.2	1	4.5	0.5	5	1	3	3	100	30	4	12	50	20	1000	5	3	0.25										83	12			
2N5445	TO-71	15	200	5	10	50				0.5	4.5	0.5	8	1.5	6	25	100	30	6	2	50	180	10	5	3	1											83	12				
2N5446	TO-71	15	200	10	20	50				0.5	4.5	0.5	8	1.5	6	25	100	30	6	2	50	200	10	10	5	2											83	12				
2N5547	TO-71	15	200	15	40	50				0.5	4.5	0.5	8	1.5	6	25	100	30	6	2	50	200	10	10	5	2											83	12				
2N5561	TO-71	10	700	5	5					0.8	3	1	10																								83	12				
2N5562	TO-71	10	700	10	10					0.2	2.71	0.8	3	1	10																						83	12				
2N5563	TO-71	10	700	15	25					0.2	2.71	0.8	3	1	10																						83	12				
J401		10	200	5	10	100	1000	1600		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10	10	3											83	12				
J402	8-Pin	10	200	10	10	100	1000	1600		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10	10	3											83	12				
J403	Mini-	10	200	10	25	100	1000	1600		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10	10	3											83	12				
J404	DIP	10	200	15	25	100	1000	1600		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10	10	3											83	12				
J405		10	200	20	40	100	1000	1600		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10	10	3											83	12				
J406		10	200	40	80	100	1000	1600		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10	10	3											83	12				
J410	8-Pin	20	200	10	10	250	600	1200		0.3	4																										83	12				

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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 _{GS} (V)	V _{GS} (mV)	V _{GS} (ΔV/°C)	Drift (μV/°C)	I _G (μA)	I _G (pA)	G _{oss} (μmho)	CMRR (dB)	V _{GS} (V)	V _p (V)			I _{DSS} (mA)	G _{is} (mmho)	G _{oss} (μmho)	I _{DSS} (μA) @ V _{GS}	C _{iss} (pF)	BV (V)	e _n (nV/√Hz)	I _{DSS} (μA) @ 125°C					
J411	Mini-	20	200	25	250	600	1200	5	0.3	4	0.5	3.5	6	1	4	20	250	20	4.5	1.2	40	50	100	83	80	
J412	DIP	20	200	40	250	600	1200	5	0.3	4	0.5	3.5	6	1	4	20	250	20	4.5	1.2	40	50	100	83	80	
NP08301	8-Pin	20	200	5	100	700	1200	5	0.3	4	0.5	3.5	6	1	4	20	100	20	4.5	1.2	40	50	100	83	67	
NP08302	Mini-	20	200	10	100	700	1200	5	0.3	4	0.5	3.5	6	1	4	20	100	20	4.5	1.2	40	50	100	83	67	
NP08303	DIP	20	200	15	100	700	1200	5	0.3	4	0.5	3.5	6	1	4	20	100	20	4.5	1.2	40	50	100	83	67	
U231	TO-71	20	200	5	100	600		10	0.3	4	See 2N3954 as an improved replacement										83	12				
U232	TO-71	20	200	10	50	600		10	0.3	4	See 2N3955 as an improved replacement										83	12				
U233	TO-71	20	200	15	50	600		10	0.3	4	See 2N3956 as an improved replacement										83	12				
U234	TO-71	20	200	20	75	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	10	15	1000	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	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	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	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	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	2	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 2N5561/2/3 only.

LOW FREQUENCY—LOW NOISE DUAL JFETS

Type No.	Case Style	Operating Conditions For These Characteristics										Process No.	Pkg. No.															
		Op. Char. V _{GS} (V)	V _{GS} (mV)	V _{GS} (ΔV/°C)	Drift (μV/°C)	I _G (pA)	I _G (μA)	G _{oss} (μmho)	CMRR (dB)	V _{GS} (V)	V _p (V)			I _{DSS} (mA)	G _{is} (mmho)	G _{oss} (μmho)	I _{DSS} (μA) @ V _{GS}	C _{iss} (pF)	BV (V)	e _n (nV/√Hz)	I _{DSS} (μA) @ 125°C							
2N5515	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	30	10	95	12
2N5516	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	30	10	95	12
2N5517	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	30	10	95	12
2N5518	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	30	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	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	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	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	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	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	95	12
2N6483	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	95	12
2N6484	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	95	12
2N6485	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	95	12

JFET Selection Guide

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6501130 NATL SEMICOND, (DISCRETE)

N-Channel JFETs

WIDE BAND—LOW NOISE DUAL JFETs

Type No.	Case Style	Operating Conditions For These Characteristics										Pkg. No.	Process No.														
		Op. Char. V _{GS1-2} (mV)	I _D (μA)	V _{GS} (mV)	ΔV _{GS} (mV)	Drift (μV/°C)	I _Q (pA)	G _{fs} (μmho)	G _{oss} (μmho)	CMRR (dB)	V _{GS} (V)			V _p (V)	I _{DSS} (mA)	G _{fs} (mho)	G _{oss} (μmho)	I _{GSS} (pA)	C _{iss} (pF)	BV (V)	e _n (nV/√Hz)	I _{DSS} Match %	G _{fs} Match %	G _{oss1-2} (μmho)	I _{G1-2} (nA)		
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	10000	100	0.3	4	1	5	7	40	15	5	1.2	25	20	10,000	5	5	20	20	93	24
2N5912	TO-78	10	5000	15	40	100	5000	10000	100	0.3	4	1	5	7	40	15	5	1.2	25	20	10,000	5	5	20	20	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

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LOW LEAKAGE—HIGH CMRR—WIDE BAND DUAL JFETs

Type No.	Case Style	Operating Conditions For These Characteristics										Pkg. No.	Process No.																
		Op. Char. V _{GS1-2} (mV)	I _D (μA)	V _{GS} (mV)	ΔV _{GS} (mV)	Drift (μV/°C)	I _Q (pA)	G _{fs} (μmho)	G _{oss} (μmho)	CMRR (dB)	V _{GS} (V)			V _p (V)	I _{DSS} (mA)	G _{fs} (mho)	G _{oss} (μmho)	I _{GSS} (pA)	C _{iss} (pF)	BV (V)	e _n (nV/√Hz)	I _{DSS} Match %	G _{fs} Match %	G _{oss1-2} (μmho)	I _{G1-2} (nA)				
NDF9406	TO-71	20	200	5	5	700	1800	1	120	0.1	4	0.5	4	0.5	10	50	30	5	0.02	50	30	10	5	3	0.1	1	94	12	
NDF9407	TO-71	20	200	5	10	5	700	1800	1	120	0.1	4	0.5	4	0.5	10	50	30	5	0.02	50	30	10	5	3	0.1	1	94	12
NDF9408	TO-71	20	200	10	10	5	700	1800	1	110	0.1	4	0.5	4	0.5	10	50	30	5	0.02	50	30	10	5	5	0.1	1	94	12
NDF9409	TO-71	20	200	15	10	5	700	1800	1	110	0.1	4	0.5	4	0.5	10	50	30	5	0.02	50	30	10	5	5	0.1	1	94	12
NDF9410	TO-71	20	200	25	25	5	700	1800	1	100	0.1	4	0.5	4	0.5	10	50	30	5	0.02	50	30	10	10	10	0.1	1	94	12

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N-Channel JFETs

ULTRA LOW LEAKAGE DUALS



Type No.	Case Style	Operating Conditions For These Characteristics												Pkg. No.	Process No.											
		Oper. Cond.		VGS1:2		ΔVGS Drift		VGS		IG		IGSS				BVGS (V) Min	IG1-IG2 @ 125°C (nA) Max									
		V _{DG} (V)	I _D (μA)	V _{OS} (mV)	Max	Min	Max	Max	Min	Max	Max	Min	Max													
2N5902	TO-78	10	30	5	5	3	3	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	5	20	3	1.5	40	2	84	24	
2N5903	TO-78	10	30	5	10	3	3	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	5	20	3	1.5	40	2	84	24	
2N5904	TO-78	10	30	10	20	3	3	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	5	20	3	1.5	40	2	84	24	
2N5905	TO-78	10	30	15	40	3	3	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	4	5	20	3	1.5	40	2	84	24	
2N5906	TO-78	10	30	5	5	1	1	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	2	20	3	1.5	40	0.2	84	24	
2N5907	TO-78	10	30	5	10	1	1	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	2	20	3	1.5	40	0.2	84	24	
2N5908	TO-78	10	30	10	20	1	1	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	2	20	3	1.5	40	0.2	84	24	
2N5909	TO-78	10	30	15	40	1	1	50 μ	1	4	0.6	4.5	30 μ	0.5	70 μ	0.25	5	2	20	3	1.5	40	0.2	84	24	
U421	TO-78																									
U422	TO-78																									
U423	TO-78																									
U424	TO-78																									
U425	TO-78																									
U426	TO-78																									

Process in Development

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SWITCHES

P-Channel JFETs

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