National Semiconductor

N-Channel JFETs

General Purpose Dual JFETs

Type No.	Case Style	Operating Conditions for these Characteristics: Op. Char. V_{DG} (V)	Op. Char. I_D (μA)	$\|V_{GS1-2}\|$ V_{OS} (mV) Max	Drift (μV/°C) ΔV_{GS} Max	I_G (pA) Max	G_{fs} μmhos Min	G_{fs} μmhos Max	G_{oss} (μmho) Max	CMRR (dB) Min	V_{gs} (V) Min	V_{gs} (V) Max	V_P (V) Min	V_P (V) Max	I_{DSS} (mA) Min	I_{DSS} (mA) Max	G_{fs} (mmho) Min	G_{fs} (mmho) Max	G_{oss} (μmho) Max	I_{GSS} (pA @ V_{DG}) Max	I_{GSS} (V_{DG}) (V)	C_{iss} (pF) Max	C_{rss} (pF) Max	BV (V) Min	e_R (nV/√Hz) Max	e_R @ f (Hz)	I_{DSS} Match %	G_{fs} Match %	G_{osc1-2} (μmho)	$I_{G1-I_{G2}}$ 125°C (nA)	Process No.	Pkg. No.
2N3921	TO-71	10	700	5	10	250	1500		20				−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				−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				See 2N3954-6 as an improved replacement																				12
2N3935	TO-71	10	200	5	25	100	300		5				See 2N3954-6 as an improved replacement																				12
2N3954A	TO-71	20	200	5	5	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	3		10	83	12
2N3954	TO-71	20	200	5	10	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	3		10	83	12
2N3955A	TO-71	20	200	5	15	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	3		10	83	12
2N3955	TO-71	20	200	10	25	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	5		10	83	12
2N3956	TO-71	20	200	15	50	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	5	5		10	83	12
2N3957	TO-71	20	200	20	75	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	10	10		10	83	12
2N3958	TO-71	20	200	25	100	50					0.5	4	1	4.5	0.5	5	1	3	35	100	30	4	1.2	50	150	100	15	15		10	83	12
2N4082	TO-71	10	200	15	10	100	300		10				See 2N3954-6 as an improved replacement																				12
2N4083	TO-71	10	200	15	25	100	300		10				See 2N3954-6 as an improved replacement																				*12
2N4084	TO-71	10	700	15	10	250	1500		20		0.5	4	3		1	10	1.5	7.5	35	1000	30	18	6	50	100	1000		5			83	12
2N4085	TO-71	10	700	15	25	250	1500		20				3		1	10	1.5	7.5	35	1000	30	18	6	50	100	1000		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		20	3		83	12
2N5196	TO-71	20	200	5	5	15	700	1500	4		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	3	1	5	83	12
2N5197	TO-71	20	200	5	10	15	700	1500	4		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	3	1	5	83	12
2N5198	TO-71	20	200	10	20	15	700	1500	4		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	3	1	5	83	12
2N5199	TO-71	20	200	15	40	17	700	1500	4		0.2	3.8	0.7	4.5	0.7	7	1	4	50	25	30	6	2	50	20	1000	5	3	1	5	83	12
2N5452	TO-71	20	200	5	5				1		0.2	4.2	1	4.5	0.5	5	1	3	3	100	30	4	1.2	50	20	1000	5	3	0.25		83	12
2N5453	TO-71	20	200	10	10				1		0.2	4.2	1	4.5	0.5	5	1	3	3	100	30	4	1.2	50	20	1000	5	3	0.25		83	12
2N5454	TO-71	20	200	15	25				1		0.2	4.2	1	4.5	0.5	5	1	3	3	100	30	4	1.2	50	20	1000	5	3	0.25		83	12
2N5545	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	5	83	12
2N5546	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	5	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			10	10	3	5	83	12
2N5561	TO-71	10	700	5	5		2000	3000	4		0.2	2.7†	0.8	3	1	10				100	30	15	4	50	50	10	5	3	0.3	10	98	12
2N5562	TO-71	10	700	10	10		2000	3000	4		0.2	2.7†	0.8	3	1	10				100	30	15	4	50	50	10	5	3	0.4	10	98	12
2N5563	TO-71	10	700	15	25		2000	3000	4		0.2	2.7†	0.8	3	1	10				100	30	15	4	50	50	10	5	3	0.5	10	98	12

†I_D = 100 μA for V_{GS} for 2N556/1/2/3 only.

General Purpose Dual JFETs (Continued)

Type No.	Case Style	Operating Conditions for these Characteristics: Op. Char. V_{DG} (V)	Op. Char. I_D (μA)	$\lvert V_{GS1-2}\rvert$ V_{OS} (mV) Max	Drift (μV/°C) ΔV_{GS} Max	I_G (pA) Max	G_{fs} μmhos Min	G_{fs} μmhos Max	G_{oss} (μmho) Max	CMRR (dB) Min	V_{gs} (V) Min	V_{gs} (V) Max	V_P (V) Min	V_P (V) Max	I_{DSS} (mA) Min	I_{DSS} (mA) Max	G_{fs} (mmho) Min	G_{fs} (mmho) Max	G_{oss} (μmho) Max	I_{GSS} (pA @ V_{DG}) Max	I_{GSS} (V_{DG}) (V)	C_{iss} (pF) Max	C_{rss} (pF) Max	BV (V) Min	e_R (nV/√Hz) Max	e_R @ f (Hz)	I_{DSS} Match %	G_{fs} Match %	G_{osc1-2} (μmho)	$I_{G1}-I_{G2}$ 125°C (nA)	Process No.	Pkg. No.
J401	8-Pin Mini-DIP	10	200	5	10	100	1000	1600	2	95		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10						98	60
J402		10	200	10	10	100	1000	1600	2	95		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10						98	60
J403		10	200	10	25	100	1000	1600	2	95		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10						98	60
J404		10	200	15	25	100	1000	1600	2	95		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10						98	60
J405		10	200	20	40	100	1000	1600	2	90		2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10						98	60
J406	8-Pin Mini DIP	10	200	40	80	100	1000	1600	2			2.3	0.5	2.5	0.5	10	2	7	20	100	30	8	3	50	20	10						98	60
J410		20	200	10	10	250	800	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
J411		20	200	25	25	250	800	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
J412		20	200	40	80	250	800	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
NPD8301	8-Pin DIP	20	200	5	t5	100	700	1200	5	70	0.3	4	0.5	3.5	0.5	6	1	4	20	100	20	4.5	1.2	40	50	100						83	67
NPD8302	Mini DIP	20	200	10	t10	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
NPD8303		20	200	15	t15	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
NPD8304	8-Pin Mini-DIP	20	200	20	t20	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	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
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			2.3	0.5	2.5	0.5	10	2	7	20	25	30	8	3	50	20	10						98	12

National Semiconductor

N-Channel JFETs

Low Frequency—Low Noise Dual JFETs

Type No.	Case Style	Operating Conditions for these Characteristics: Op. Char. V_{DG} (V)	Op. Char. I_D (μA)	$\lvert V_{GS1-2}\rvert$ V_{OS} (mV) Max	Drift (μV/°C) ΔV_{GS} Max	I_G (pA) Max	G_{fs} μmhos Min	G_{fs} μmhos Max	G_{oss} (μmho) Max	CMRR (dB) Min	V_{gs} (V) Min	V_{gs} (V) Max	V_P (V) Min	V_P (V) Max	I_{DSS} (mA) Min	I_{DSS} (mA) Max	G_{fs} (mmho) Min	G_{fs} (mmho) Max	G_{oss} (μmho) Max	I_{GSS} (pA @ V_{DG}) Max	I_{GSS} (pA @ V_{DG}) (V_{DG})	C_{iss} (pF) Max	C_{rss} (pF) Max	BV (V) Min	e_R (nV/$\sqrt{Hz}$ @ f) Max	e_R (nV/$\sqrt{Hz}$ @ f) (Hz)	I_{DSS} Match %	G_{fs} Match %	G_{osc1-2} (μmho)	$I_{G1}-I_{G2}$ 125°C (nA)	Process No.	Pkg. No.
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	5	3	0.1	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	5	3	0.1	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	5	5	0.1	10	95	12
2N5518	TO-71	20	200	15	40	100	500	1000	1		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		0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	30	10	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		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		0.2	3.8	0.7	4	0.5	7.5	1	4	10	250	30	25	5.0	40	15	10	10	10	0.1	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	5	3	0.1	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	5	3	0.1	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	5	3	0.1	10	95	12