matched dual n-channel JFETs *designed for . . .*

■ Wideband Differential Amplifiers

Siliconix

Performance Curves NZF-D
See Section 4

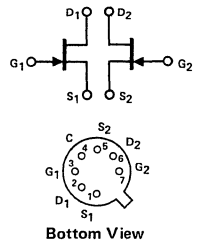
BENEFITS

- High Gain through 100 MHz
  $g_{fs} > 5000$ μmho
- Matching Characteristics Specified

ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-to-Gate Voltage ..... ±80 V
Gate-Drain or Gate-Source Voltage ..... -25 V
Gate Current ..... 50 mA
Device Dissipation (Each Side), (Derate 3 mW/°C).. 367 mW
Total Device Dissipation, (Derate 4 mW/°C) ..... 500 mW
Storage Temperature Range ..... -65 to +200°C
Lead Temperature
(1/16" from case for 10 seconds) .....300°C

TO-78
See Section 6



*ELECTRICAL CHARACTERISTICS (25° unless otherwise noted)

		Characteristic		Min	Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate Reverse Current		-100	pA	V_{GS} = -15 V, V_{DS} = 0	
2					-250	nA		T_A = 150°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	-25		V	I_G = -1 μA, V_{DS} = 0	
4		$V_{GS(off)}$	Gate-Source Cutoff Voltage	-1	-5		V_{DS} = 10 V, I_D = 1 nA	
5		V_{GS}	Gate-Source Voltage	-0.3	-4		V_{DG} = 10 V, I_D = 5 mA	
6		I_G	Gate Operating Current		-100	pA		
					-100	nA		T_A = 125°C
7		I_{DSS}	Saturation Drain Current (Note 1)	7	40	mA	V_{DS} = 10 V, V_{GS} = 0 V	
8	DYNAMIC	g_{fs}	Common-Source Forward Transconductance	5000	10,000	μmho	V_{DG} = 10 V, I_D = 5 mA	f = 1 kHz
9		g_{fs}	Common-Source Forward Transconductance	5000	10,000			f = 100 MHz
10		g_{os}	Common-Source Output Conductance		100			f = 1 kHz
11		g_{os}	Common-Source Output Conductance		150			f = 100 MHz
12		C_{iss}	Common-Source Input Capacitance		5	pF		f = 1 MHz
13		C_{rss}	Common-Source Reverse Transfer Capacitance		1.2			
14		$\bar{e}_n$	Equivalent Short Circuit Input Noise Voltage		20	$\frac{nV}{\sqrt{Hz}}$		f = 10 kHz
15		NF	Spot Noise Figure		1	dB		f = 10 kHz R_G = 100K

		Characteristic		2N5911 Min	2N5911 Max	2N5912 Min	2N5912 Max	Unit	Test Conditions	
16	MATCHING	$\lvert I_{G1}-I_{G2}\rvert$	Differential Gate Current		20		20	nA	V_{DG} = 10 V, I_D = 5 mA	T_A = 125°C
17		$\frac{I_{DSS1}}{I_{DSS2}}$	Saturation Drain Current Ratio (Notes 1 and 2)	0.95	1	0.95	1	–	V_{DS} = 10 V, V_{GS} = 0	
18		$\lvert V_{GS1}-V_{GS2}\rvert$	Differential Gate-Source Voltage		10		15	mV	V_{DG} = 10 V, I_D = 5 mA	
19		$\frac{\Delta\lvert V_{GS1}-V_{GS2}\rvert}{\Delta T}$	Gate-Source Voltage Differential Drift (Note 3)		20		40	μV/°C		T_A = 25°C T_B = 125°C
20					20		40			T_A = -55°C T_B = 25°C
21		$\frac{g_{fs1}}{g_{fs2}}$	Transconductance Ratio (Note 2)	0.95	1	0.95	1	–		f = 1 kHz

*JEDEC registered data

NZF-D

NOTES:
1. Pulsewidth ≤ 300 μs, duty cycle ≤ 3%
2. Assumes smaller value in numerator.
3. Measured at end points, T_A and T_B.