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

■ Differential Amplifiers

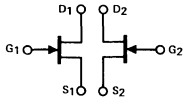
Siliconix

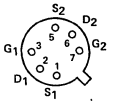
Performance Curves NNR
See Section 4

BENEFITS

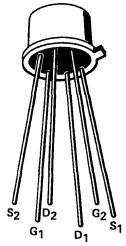
- Minimum System Error and Calibration
  5 mV Offset Maximum (2N3921)
- Simplifies Amplifier Design
  Low Output Conductance

TO-71
See Section 6





Bottom View



*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage . . . . . -50 V
Gate Current . . . . . 50 mA
Total Device Dissipation
(Derate 1.7 mW/°C to 200°C) . . . . . 300 mW
Storage Temperature Range . . . . . -65 to +200°C

*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		Min	Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate Reverse Current		-1	nA	V_{GS} = -30 V, V_{DS} = 0	
2					-1	μA		100°C
3		BV_{DGO}	Drain-Gate Breakdown Voltage	50			I_D = 1 μA, I_S = 0	
4		$V_{GS(off)}$	Gate-Source Cutoff Voltage		-3	V	V_{DS} = 10 V, I_D = 1 nA	
5		V_{GS}	Gate-Source Voltage	-0.2	-2.7		V_{DS} = 10 V, I_D = 100 μA	
6		I_G	Gate Operating Current		-250	pA	V_{DG} = 10 V, I_D = 700 μA	
7					-25	nA		100°C
8		I_{DSS}	Saturation Drain Current (Note 1)	1	10	mA	V_{DS} = 10 V, V_{GS} = 0	
9	DYNAMIC	g_{fs}	Common-Source Forward Transconductance (Note 1)	1500	7500	μmho	V_{DS} = 10 V, V_{GS} = 0	f = 1 kHz
10		g_{os}	Common-Source Output Conductance		35			
11		C_{iss}	Common-Source Input Capacitance		18	pF		
12		C_{rss}	Common-Source Reverse Transfer Capacitance		6			
13		g_{fs}	Common-Source Forward Transconductance	1500		μmho	V_{DG} = 10 V, I_D = 700 μA	f = 1 kHz
14		g_{os}	Common-Source Output Conductance		20			
15		NF	Spot Noise Figure		2	dB	V_{DS} = 10 V, V_{GS} 0	f = 1 kHz, R_G = 1 meg

		Characteristic		2N3921		2N3922		2N4084		2N4085		Unit	Test Conditions	
				Min	Max	Min	Max	Min	Max	Min	Max			
16	MATCH	$\lvert V_{GS1}-V_{GS2}\rvert$	Differential Gate-Source Voltage		5		5		15		15	mV	V_{DG} = 10 V, I_D = 700 μA	T_A = 0°C, T_B = 100°C
17		$\frac{\Delta\lvert V_{GS1}-V_{GS2}\rvert}{\Delta T}$	Gate-Source Differential Voltage Change with Temperature (Note 2)		10		25		10		25	μV/°C		
18		$\frac{g_{fs1}}{g_{fs2}}$	Transconductance Ratio (Note 3)	0.95	1.0	0.95	1.0	0.95	1.0	0.95	1.0	–		f = 1 kHz

*JEDEC registered data.

NNR

NOTES:
1. Pulse test duration = 2 ms.
2. Measured at end points, T_A and T_B.
3. Assumes smaller value in numerator.