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

Siliconix

■ Wideband Differential Amplifiers

Performance Curves NZF-D, NNZ See Section 4

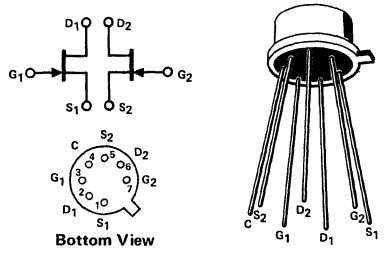
BENEFITS

- **High Gain through 100 MHz**
  g_{fs} = 4500 μmho Minimum
- **Matching Characteristics Specified**

ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage . . . . . -25 V
Gate Current . . . . . 50 mA
Device Dissipation (Each Side), T_A = 85°C
(Derate 3.85 mW/°C) . . . . . 250 mW
Total Device Dissipation, T_A = 85°C
(Derate 7.7 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		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		I_{DSS}	Saturation Drain Current (Note 1)	5	40	mA	V_{DS} = 10 V, V_{GS} = 0	
6	DYNAMIC	g_{fs}	Common-Source Forward Transconductance	4500	10,000	μmho	V_{DS} = 10 V, I_D = 5 mA	f = 1 kHz
7		g_{fs}	Common-Source Forward Transconductance	4500	10,000		V_{DG} = 10 V, I_D = 5 mA	f = 100 MHz
8		g_{os}	Common-Source Output Conductance		200		V_{DS} = 10 V, I_D = 5 mA	f = 1 kHz
9		g_{os}	Common-Source Output Conductance		200		V_{DG} = 10 V, I_D = 5 mA	f = 100 MHz
10		C_{iss}	Common-Source Input Capacitance		5	pF		f = 1 MHz
11		C_{rss}	Common-Source Reverse Transfer Capacitance		1.2			
12		$\bar{e}_n$	Equivalent Short Circuit Input Noise Voltage		30	$\frac{nV}{\sqrt{Hz}}$		f = 10 kHz
13	MATCHING	$\frac{I_{DSS1}}{I_{DSS2}}$	Saturation Drain Current Ratio (Notes 1 and 2)	0.85	1		V_{DS} = 10 V, V_{GS} = 0	
14		$\lvert V_{GS1}-V_{GS2}\rvert$	Differential Gate-Source Voltage		100	mV	V_{DG} = 10 V, I_D = 5 mA	
15		$\frac{g_{fs1}}{g_{fs2}}$	Transconductance Ratio (Note 2)	0.85	1			f = 1 kHz
16		$\lvert g_{os1}-g_{os2}\rvert$	Differential Output Conductance		20	μmho		

NOTES:
1. Pulse test required, pulse width = 300 μs, duty cycle ≤ 30%.
2. Assumes smaller value in numerator.

NZF-D, NNZ