n-channel JFETs designed for . . .

Siliconix

Performance Curves NRL
See Section 5

- **Small-Signal Amplifiers**
- **Oscillators**

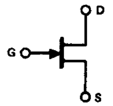
BENEFITS

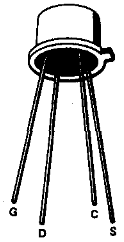
- Operates from High Supply Voltages $BV_{GSS} > 50$ V

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) . . .	−50 V
Gate Current	10 mA
Total Device Dissipation at (or below) 25°C Free-Air Temperature (Note 2)	300 mW
Storage Temperature Range	−65 to +200°C
Lead Temperature (1/16" from case for 10 seconds)	300°C

TO-72
See Section 7





*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		2N3821		2N3822		Unit	Test Conditions	
				Min	Max	Min	Max			
1	STATIC	I_{GSS}	Gate Reverse Current		−0.1		−0.1	nA	$V_{GS} = -30$ V, $V_{DS} = 0$	
2					−0.1		−0.1	µA		150°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	−50		−50		V	$I_G = -1$ µA, $V_{DS} = 0$	
4		$V_{GS(off)}$	Gate-Source Cutoff Voltage		−4		−6		$V_{DS} = 15$ V, $I_D = 0.5$ nA	
5		V_{GS}	Gate-Source Voltage	−0.5	−2				$V_{DS} = 15$ V, $I_D = 50$ µA	
						−1	−4		$V_{DS} = 15$ V, $I_D = 200$ µA	
6		I_{DSS}	Saturation Drain Current (Note 3)	0.5	2.5	2	10	mA	$V_{DS} = 15$ V, $V_{GS} = 0$	
7	DYNAMIC	g_{fs}	Common-Source Forward Transconductance (Note 3)	1500	4500	3000	6500	µmho	$V_{DS} = 15$ V, $V_{GS} = 0$	f = 1 kHz
8		$\|y_{fs}\|$	Common-Source Forward Transadmittance	1500		3000				f = 100 MHz
9		g_{os}	Common-Source Output Conductance (Note 3)		10		20			f = 1 kHz
10		C_{iss}	Common-Source Input Capacitance		6		6	pF		f = 1 MHz
11		C_{rss}	Common-Source Reverse Transfer Capacitance		3		3			
12		NF	Noise Figure		5		5	dB	$V_{DS} = 15$ V, $V_{GS} = 0$, $R_{gen} = 1$ meg, BW = 5 Hz	f = 10 Hz
13		$\bar{e}_n$	Equivalent Short-Circuit Input Noise Voltage		200		200	$\frac{nV}{\sqrt{Hz}}$	$V_{DS} = 15$ V, $V_{GS} = 0$, BW = 5 Hz	

*JEDEC Registered Data.

NRL

NOTES:

1. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
2. Derate linearly to 175°C free-air temperature at rate of 2 mW/°C.
3. These parameters are measured during a 2 msec interval 100 msec after d-c power is applied.