n-channel JFETs *designed for . . .*

Siliconix

Performance Curves NRL/NH See Section 4

- **VHF Amplifiers**
- **Mixers**

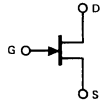
BENEFITS

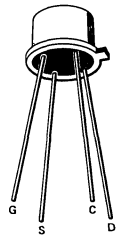
- Low Noise
  NF = 3 dB Typical @ 200 MHz
- Easy Tuning
  $C_{rss} < 2$ pF

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) ..... -30 V
Gate Current ..... 10 mA
Drain Current ..... 20 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 6





*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

			Characteristic	2N4223 Min	2N4223 Max	2N4224 Min	2N4224 Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate Reverse Current		-0.25		-0.5	nA	V_{GS} = -20 V, V_{DS} = 0	
2					-0.25		-0.5	μA		150°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	-30		-30		V	I_G = -10 μA, V_{DS} = 0	
4		$V_{GS(off)}$	Gate-Source Cutoff Voltage	-0.1	-8	-0.1	-8	V	V_{DS} = 15 V, I_D = ( )	
				(0.25)	(0 25)	(0.5)	(0.5)	(nA)		
5		V_{GS}	Gate-Source Voltage	-1 0	-7 0	-1.0	-7.5	V		
				(0 3)	(0.3)	(0.2)	(0 2)	(mA)		
6		I_{DSS}	Saturation Drain Current (Note 3)	3	18	2	20	mA	V_{DS} = 15 V, V_{GS} = 0	
7	DYN	g_{fs}	Common-Source Forward Transconductance (Note 3)	3000	7000	2000	7500	μmho	V_{DS} = 15 V, V_{GS} = 0	f = 1 kHz
8		C_{iss}	Common-Source Input Capacitance (Output Shorted)		6		6	pF		f = 1 MHz
9		C_{rss}	Common-Source Reverse Transfer Capacitance		2		2			
10	HIGH FREQ	$\lvert y_{fs} \rvert$	Common-Source Forward Transadmittance	2700		1700		μmho	V_{DS} = 15 V, V_{GS} = 0	f = 200 MHz
11		g_{iss}	Common-Source Input Conductance (Output Shorted)		800		800			
12		g_{oss}	Common-Source Output Conductance (Input Shorted)		200		200			
13		G_{ps}	Small Signal Power Gain	10				dB		
14		NF	Noise Figure		5				V_{DS} = 15 V, V_{GS} = 0, R_{gen} = 1 K	

*JEDEC registered data.

NRL/NH

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.