n-channel JFETs *designed for . . .*

Siliconix

■ General Purpose Amplifiers

Performance Curves NPA, NH
See Section 4

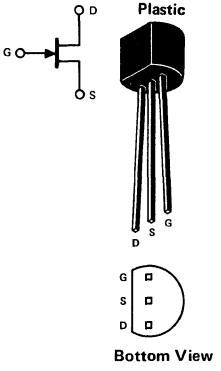
BENEFITS

- Low Cost
- High Input Impedance
  I_G = 35 pA Typically
- Low Noise
  $\overline{e_n}$ = 5 nV/$\sqrt{Hz}$ Typically @ 1 kHz

ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) . . . . . –30V
Gate Current . . . . . 50 mA
Total Device Dissipation at 25°C Ambient.
(Derate 3.27 mW/°C). . . . . 360 mW
Operating Temperature Range. . . . . –55 to 135°C
Storage Temperature Range. . . . . –55 to 150°C
Lead Temperature Range
(1/16" from case for 10 seconds) . . . . . 300°C

TO-92
See Section 6



Bottom View

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		PN4302 Min	PN4302 Max	PN4303 Min	PN4303 Max	PN4304 Min	PN4304 Max	Unit	Test Conditons	
1	STATIC	I_{GSS}	Gate Reverse Current (Note 2)		1		–1		–1	nA	V_{GS} = –10 V, V_{DS} = 0	
2					0 1		–0.1		–0.1	µA		T_A = 85°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	–30		–30		–30		V	I_G = –1 µA, V_{DS} = 0	
4		$V_{GS(off)}$	Gate-Source Cutoff Voltage		–4 0		–6 0		–10		V_{DS} = 20 V, I_D = 10 nA	
5		I_{DSS}	Saturation Drain Current (Note 3)	0.5	5.0	4.0	10	0.5	15	mA	V_{DS} = 20 V, V_{GS} = 0	
6	DYNAMIC	g_{fs}	Common-Source Forward Transconductance (Note 3)	1000		2000		1000		µmho		f = 1 kHz
7		g_{os}	Common-Source Output Conductance		50		50		50			
8		C_{rss}	Common-Source Reverse Transfer Capacitance		3		3		3	pF		f = 1 MHz
9		C_{iss}	Common-Source Input Capacitance		6		6		6			
10		C_{DG}	Drain-Gate Capacitance		2		2		2		V_{DG} = 10 V, I_S = 0	f = 140 kHz
11		NF	Noise Figure		2.0		2 0		3.0	dB	V_{DS} = 10 V, V_{GS} = 0	f = 1 kHz, R_{gen} = 1 0M Ω
12		$\|y_{fs}\|$	Common-Source Short Circuit Forward Transadmittance (Note 3)	700		1400		700		µmho	V_{DS} = 20 V, V_{GS} = 0	f = 10 MHz

NPA, NH

NOTES:
1. Geometry is symmetrical. Units may be operated with source and drain leads interchanged
2. Approximately doubles for every 10°C increase in T_A.
3. Pulse test duration = 2 ms