n-channel JFET Amplifier *designed for . . .*

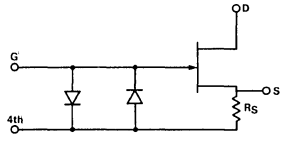
- **Infra-red Detector**
- **Micropower Pre-amplifier**
- **Transducer Impedance Converter**
- **Hearing Aid Pre-amplifier**

Siliconix

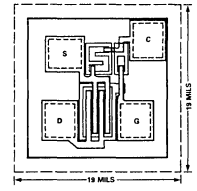
Performance Curves NBB See Section 4

BENEFITS

- **Reduces Component Count, Lower Circuitry Cost**
- **Input Over Voltage Clamp by Two Built-in Diodes**
- **Monolithic Source Resistor**
- **Low Noise**
- **Low Leakage**



TO-72



ABSOLUTE MAXIMUM RATINGS (25°C)

Maximum Supply Voltage (V_{DD}) ..... −30 V
Gate Current ..... 100 mA
Total Device Dissipation (25°C) ..... 300 mW
Storage Temperature Range ..... −55 to 200°C
Operating Temperature Range ..... −55 to 150°C
Power Derating ..... 2.4 mW/°C
Lead Temperature (10 seconds @ 1/16") ..... 300°C

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

	Characteristic	Min	Typ	Max	Unit	Test Conditions
V_{GS}(oper)	Gate-Source Voltage	0.15		2.8	V	V_{DG} = 20 V, V_G4 = 0 V (Note 1)
I_D(oper)	Drain Current	5.0		85	μA	
$\bar{e}_n$	Equivalent Short Circuit Input Noise Voltage		10	25	$\frac{nV}{\sqrt{Hz}}$	V_{DS} = 10 V, V_{GS} = 0 V FREQ = 100 Hz
I_{G4}	Forward Signal Current		±1	±10	pA	V_{GS} = ±100 mV
Av	Source Follower Gain (AV)	0.75	0.85		V/V	V_{DD} = 10 V, FREQ = 1 kHz
Z(in)	Input Impedance		100		GΩ	V_{GS} ≤ ±100 mV
Z(out)	Output Impedance	30	45	70	KΩ	V_{DD} = 10 V, FREQ = 1 kHz, V_G4 = 0 V (Note 1)
V_f	Forward Voltage			±1.0	V	I_G = ±0.5 mA, V_{DS} = 0 V, V_D4 = 0 V
I_G	Gate Leakage Current		1	25	pA	V_{DD} = 15 V, V_G4 = 0 V (Note 1)
NF	Noise Figure			1	dB	V_{DD} = 15 V, V_G4 = 0 V, R_{GEN} = 1 MΩ, F = 1 kHz

NOTE:
1. V_G4 = 0 V, Test Condition implies the gate and 4th lead are shorted.

NBB

Device Available in Surface Mount (SOT 143)—Order Number—SST6911

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