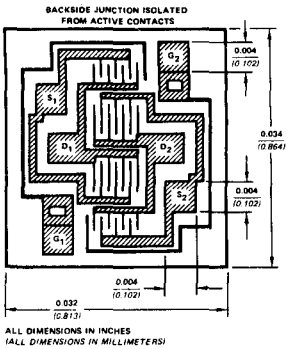



# monolithic dual n-channel JFET

***designed for . . .***

- FET Input Amplifiers
- Low and Medium Frequency Amplifiers
- Impedance Converters
- *Precision Instrumentation Amplifiers*
- Comparators

**Siliconix**

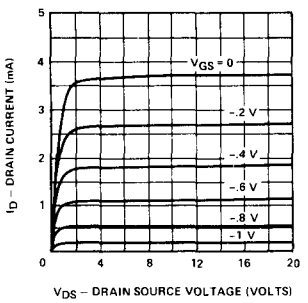
BENEFITS:

- **Minimum System Error and Calibration**
  **5 mV Offset Maximum (J401)**
  **95 dB Minimum CMRR**
- **Low Drift With Temperature**
  **10 μV/°C (J401)**
- **Simplifies Amplifier Design**
  **Output Conductance < 2 μmho**
- **Low Noise**
  $\overline{e_n}$ = 6 nV/$\sqrt{Hz}$ at 10 Hz Typical

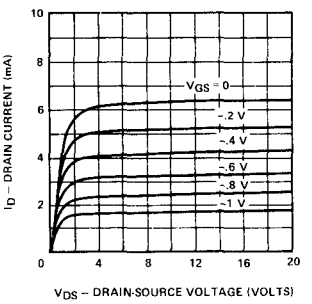
| TYPE | PACKAGE | PRINCIPAL DEVICES |
|---|---|---|
| Dual | TO-71 | 2N3921-2, 2N4084-5, 2N5045-7, U401-6 |
| Dual | Chip | 2N4085CHP, 2N5046CHP-47CHP, U403CHP-06CHP |

## PERFORMANCE CURVES (25°C unless otherwise noted)

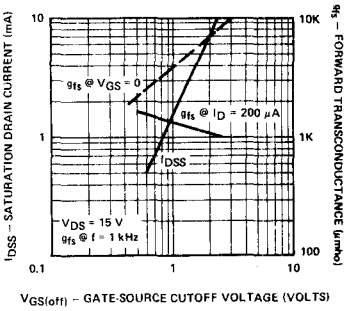
Output Characteristics
Low $V_{GS(off)}$ Unit (−1.5 V)



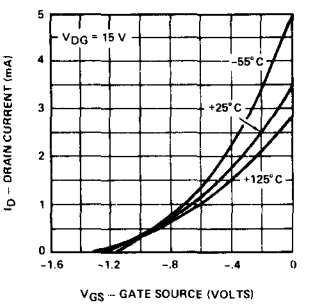

Output Characteristics
Medium $V_{GS(off)}$ Unit (−2.2 V)



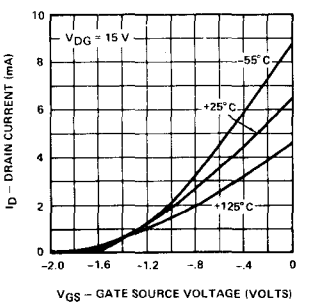

Drain Current and Transconductance vs
Gate-Source Cutoff Voltage



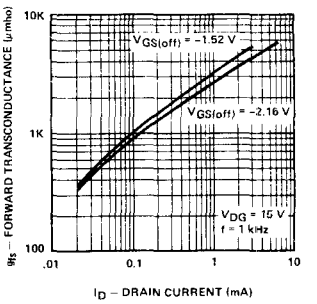

Transfer Characteristics
Low $V_{GS(off)}$ Unit (−1.5 V)




Transfer Characteristics
Medium $V_{GS(off)}$ Unit (−2.2 V)

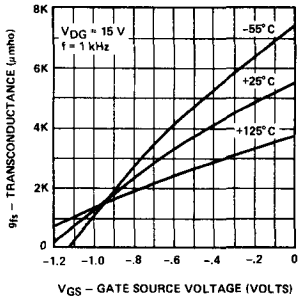



Forward Transconductance
vs Drain Current

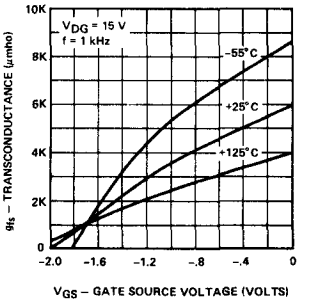


## PERFORMANCE CURVES (Con't) (25°C unless otherwise noted)

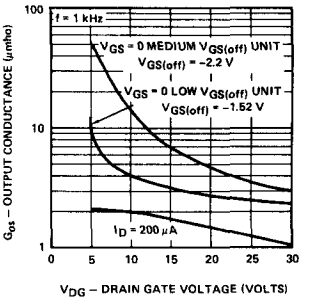
Transconductance vs Gate Source Voltage
Low $V_{GS(off)}$ Unit (−1.5 V)



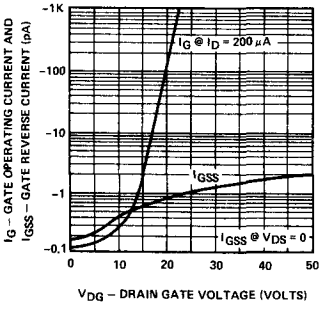

Transconductance vs Gate Source Voltage
Medium $V_{GS(off)}$ Unit (−2.2 V)



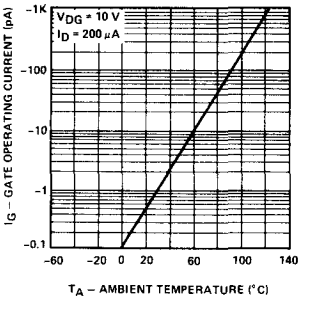

Output Conductance
vs Drain Gate Voltage



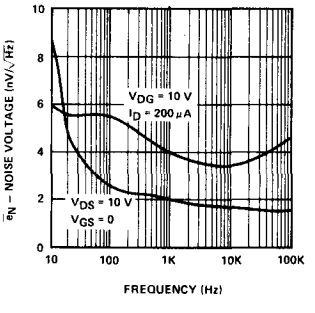

Gate Operating Current
vs Drain Gate Voltage



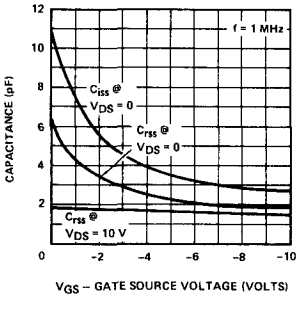

Gate Operating Current
vs Ambient Temperature



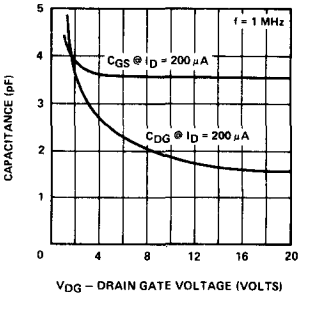

Equivalent Short Circuit Input Noise
vs Frequency

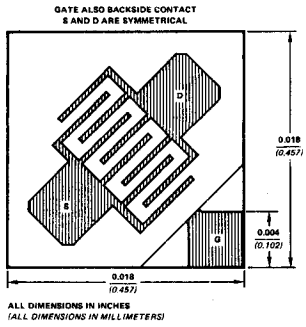



Capacitance vs Gate Source Voltage




Capacitance vs Drain to Gate Voltage






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

- Small Signal Amplifiers
- VHF Amplifiers
- Oscillators
- Mixers
- Switches

**Siliconix**

**BENEFITS:**

- Wide Input Dynamic Range
  High $I_G$ Breakpoint Voltage
- High Gain
- Low Insertion Loss Switches

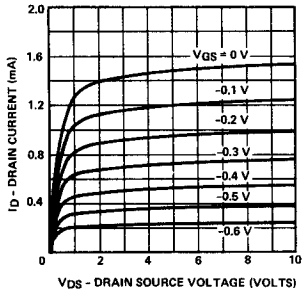
| TYPE | PACKAGE |
|---|---|
| Single | TO-72 |
| Single | TO-92 |
| Dual | TO-71 |
| Single | Chip |

**PRINCIPAL DEVICES**

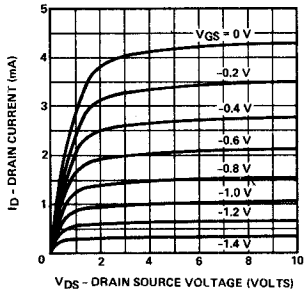
2N3821-4, 2N4220-2, 2N4220A-22A
2N4223-24, 2N5556-58
2N3819, 2N5457-9, MPF109, MPF111
2N3921-2, 2N4084-5, 2N5045-7, U401-6
All of the above except 2N3819

## PERFORMANCE CURVES (25°C unless otherwise noted)

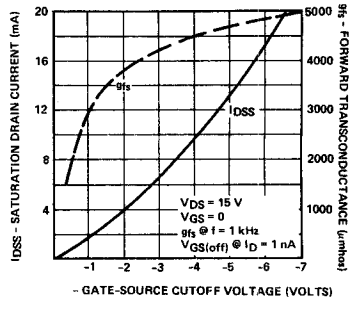
Output Characteristic



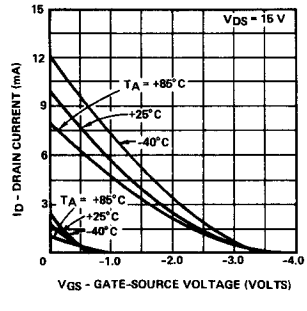

Output Characteristic



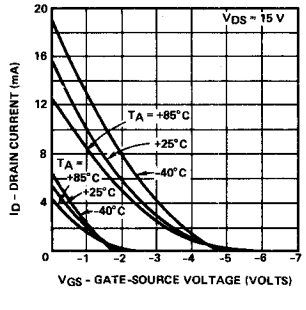

Drain Current & Transconductance vs Gate-Source Voltage



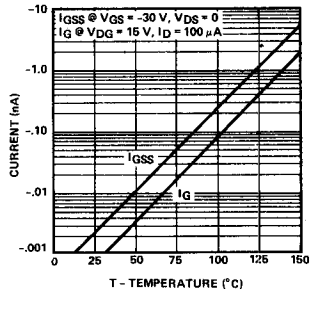

Transfer Characteristic



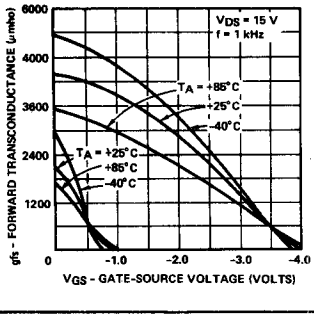

Transfer Characteristics



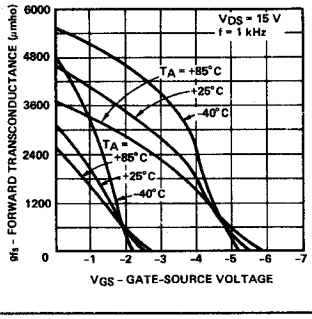

Leakage Currents vs Ambient Temperature



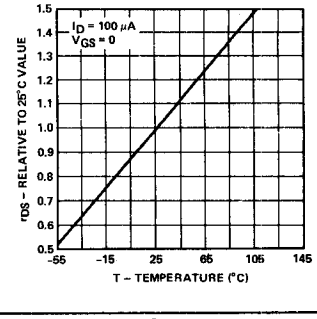

Transconductance Characteristics




Transconductance Characteristics

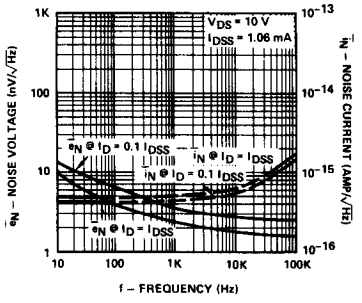



'ON' Resistance vs Ambient Temperature

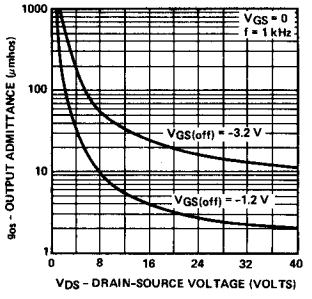


## PERFORMANCE CURVES (Con't) (25°C unless otherwise noted)

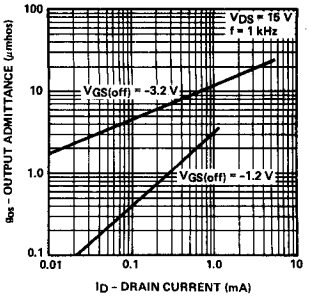
Equivalent Input Noise Voltage and Noise Current vs Frequency



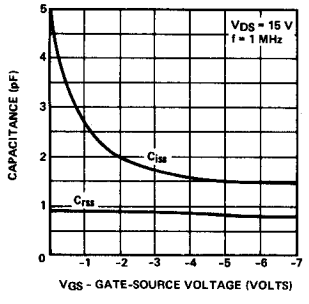

Common-Source Output Admittance vs Drain-Source Voltage



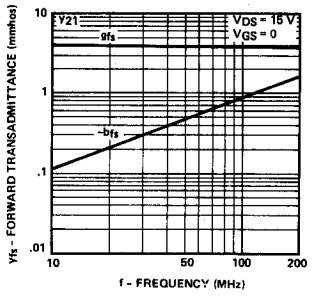

Common-Source Output Admittance vs Drain Current



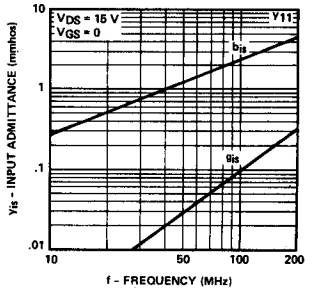

Common-Source Capacitances vs Gate-Source Voltage



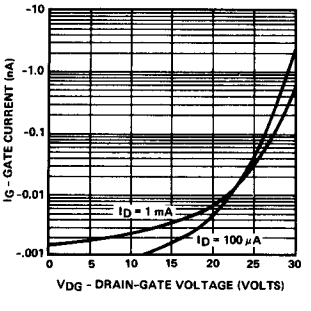

Common-Source Forward Transadmittance vs Frequency



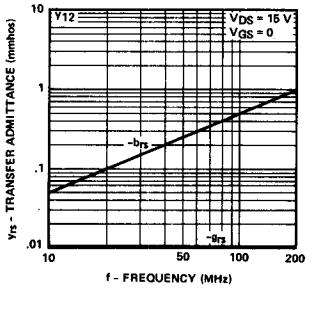

Common-Source Input Admittance vs Frequency



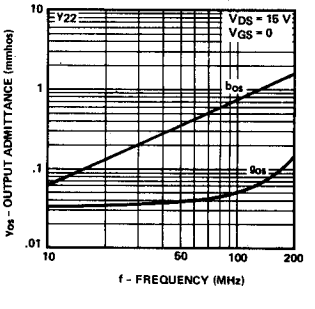

Gate Operating Current vs Drain-Gate Voltage



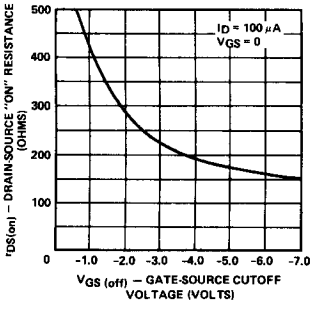

Common-Source Reverse Transfer Admittance vs Frequency



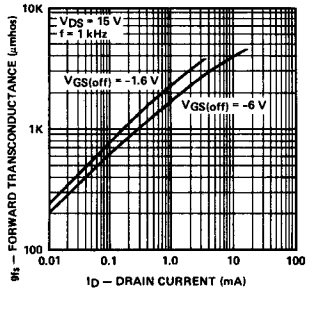

Common-Source Output Admittance vs Frequency




Static Drain-Source 'ON' Resistance vs Gate-Source Cutoff Voltage




Common-Source Forward Transconductance vs Drain Current




Drain Current and Transconductance vs Ambient Temperature