

# LINEAR SYSTEMS

*Linear Integrated Systems*

## LS5301, PF5301

**VERY HIGH INPUT IMPEDANCE  
N-CHANNEL JFET**

### FEATURES

DIRECT REPLACEMENT FOR LF5301, PF5301, & 2N5301

HIGH INPUT IMPEDANCE  $I_G = 0.100 \text{ pA}$

HIGH GAIN  $g_{fs} = 70 \text{ } \mu\text{S}$

### ABSOLUTE MAXIMUM RATINGS<sup>1</sup>

@ 25 °C (unless otherwise stated)

### Maximum Temperatures

Storage Temperature (TO-72) -65 to 175°C

Storage Temperature (TO-92) -65 to 150°C

### Maximum Power Dissipation

Continuous Power Dissipation 300mW

### Maximum Currents

Gate Current 50mA

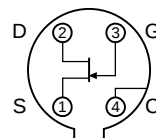
### Maximum Voltages

Gate to Drain -30V

Gate to Source -30V

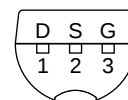
### LS SERIES

TO-72  
BOTTOM VIEW



### PF SERIES

TO-92  
BOTTOM VIEW



### COMMON ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

| SYMBOL        | CHARACTERISTIC                     | MIN | TYP  | MAX | UNIT            | CONDITIONS                               |
|---------------|------------------------------------|-----|------|-----|-----------------|------------------------------------------|
| $BV_{GSS}$    | Gate to Source Breakdown Voltage   | -30 |      |     | V               | $V_{DS} = 0V, I_D = -1\mu A$             |
| $V_{GS(off)}$ | Gate to Source Cutoff Voltage      | 0.6 |      | 3.0 |                 | $V_{DS} = 10V, I_D = 1nA$                |
| $I_{GSS}$     | Gate Leakage Current               |     |      | -1  | pA              | $V_{DS} = 0V, V_{GS} = -15V$             |
| $I_G$         | Gate Operating Current             |     | 0.04 |     |                 | $V_{DG} = 6V, I_D = 5\mu A$              |
| $I_{DSS}$     | Drain to Source Saturation Current | 30  |      | 500 | $\mu A$         | $V_{DS} = 10V, V_{GS} = 0V$              |
| $g_{fs}$      | Forward Transconductance           | 70  |      | 300 | $\mu S$         | $V_{DS} = 10V, V_{GS} = 0V, f = 1kHz$    |
| $C_{iss}$     | Input Capacitance                  |     |      | 3   | pF              | $V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$    |
| $C_{rss}$     | Reverse Transfer Capacitance       |     |      | 1.5 |                 |                                          |
| $e_n$         | Equivalent Noise Voltage           |     | 45   | 150 | nV/ $\sqrt{Hz}$ | $V_{DG} = 10V, I_D = 50\mu A, f = 100Hz$ |

### NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.

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• 4042 Clipper Court • Fremont, CA 94538 • Tel: 510 490-9160 • Fax: 510 353-0261