

## Linear Systems replaces discontinued LF5301 and PF5301

### The 2N5301 is a very High Input Impedance N-Channel JFET amplifier

The 2N5301 N-channel JFET is designed to provide performance amplification at low frequencies and with low noise.

#### 2N5301 Benefits:

- Insignificant Signal Loss/Error Voltage with High-Impedance Source
- Maximum Signal Output, Low Noise
- High Sensitivity to Low-Level Signals

#### 2N5301 Applications:

- High-Impedance Transducer
- Smoke Detector Input
- Infrared Detector Amplifier
- Precision Test Equipment

#### FEATURES

DIRECT REPLACEMENT FOR LF5301 & PF5301

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

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

#### ABSOLUTE MAXIMUM RATINGS

@ 25°C (unless otherwise noted)

#### Maximum Temperatures

Storage Temperature -65°C to +175°C

Operating Junction Temperature -65°C to +150°C

#### Maximum Power Dissipation

Continuous Power Dissipation 300mW

#### MAXIMUM CURRENT

Gate Current (Note 1) 50mA

#### MAXIMUM VOLTAGES

Gate to Drain or Gate to Source -30V

#### 2N5301 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	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	$V_{DS} = 10V, I_D = 1nA$
$I_{GSS}$	Gate Leakage Current	--	--	-1	pA	$V_{DG} = 0V, V_{GS} = -15V$
$I_G$	Gate Operating Current	--	0.04	--		$V_{DG} = 6V, I_D = 5\mu A$
$I_{DSS}$	Gate 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 Input Noise Voltage	--	45	150	nV/VHz	$V_{DG} = 10V, I_D = 50\mu A, f = 100Hz$

#### NOTES

1. Absolute maximum ratings are limiting values above which 2N5301 serviceability may be impaired.

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Available Packages:

2N5301 in TO-18

2N5301 in bare die.

Please contact Micross for full package and die dimensions

TO-18 (Bottom View)

