

Linear Systems replaces discontinued LF5301 and PF5301

The LS5301 is a very High Input Impedance N-Channel JFET amplifier

The LS5301 N-channel JFET is designed to provide performance amplification at low frequencies and with low noise.

LS5301 Benefits:

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

LS5301 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 $+175^\circ\text{C}$

Operating Junction Temperature -65°C to $+150^\circ\text{C}$

Maximum Power Dissipation

Continuous Power Dissipation 300mW

MAXIMUM CURRENT

Gate Current (Note 1) 50mA

MAXIMUM VOLTAGES

Gate to Drain or Gate to Source -30V

LS5301 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

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

NOTES

1. Absolute maximum ratings are limiting values above which LS5301 serviceability may be impaired.

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Available Packages:

LS5301 in TO-18

LS5301 in bare die.

Please contact Micross for full package and die dimensions

TO-18 (Bottom View)

