LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

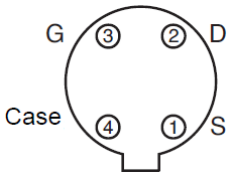
LS5301, PF5301

VERY HIGH INPUT IMPEDANCE N-CHANNEL JFET AMPLIFIER

FEATURES	
REPLACEMENT FOR LF5301, PF5301	
HIGH INPUT INPEDANCE	I_G = 0.100 pA
HIGH GAIN	g_{fs} = 70 µS
ABSOLUTE MAXIMUM RATINGS[1] @ 25 °C (unless otherwise stated), TA=25°C	
Maximum Temperatures	
Storage Temperature (TO-72)	-55 to 150°C
Storage Temperature (TO-92)	-55 to 150°C
Maximum Power Dissipation[2]	
Continuous Power Dissipation, TA=25°C	300mW
Maximum Currents	
Gate Current	50mA
Maximum Voltages	
Gate to Drain	-30V
Gate to Source	-30V

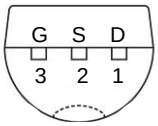
LS5301

TO-72
TOP VIEW



PF5301

TO-92
TOP 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 = -1µA
$V_{GS(off)}$	Gate to Source Cutoff Voltage		-0.6		-3.0		V_{DS} = 10V, I_D = 1nA
I_{GSS}	Gate Leakage Current	LS5301			-1	pA	V_{DS} = 0V, V_{GS} = -15V
		PF5301			-5		
I_G	Gate Operating Current			-0.04			V_{DG} = 6V, I_D = 5µA
I_{DSS}	Drain to Source Saturation Current		30		500	µA	V_{DS} = 10V, V_{GS} = 0V
g_{fs}	Forward Transconductance		70		500	µS	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/√Hz	V_{DG} = 10V, I_D = 50µA, *f* = 100Hz

NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Derate PF series 2.8mW/° C when TA>25° C. Derate LS series 2.0mW°C when TA>25° C
3. All MIN/TYP/MAX limits are absolute numbers. Negative signs indicated electrical polarity only.

Linear Integrated Systems (LIS) is a 25-year-old, third-generation precision semiconductor company providing high-quality discrete components. Expertise brought to LIS is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company President John H. Hall. Hall, a protégé of Silicon Valley legend Dr. Jean Hoerni, was the director of IC Development at Union Carbide, Co-Founder and Vice President of R&D at Intersil, and Founder/President of Micro Power Systems.

Linear Integrated Systems

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