

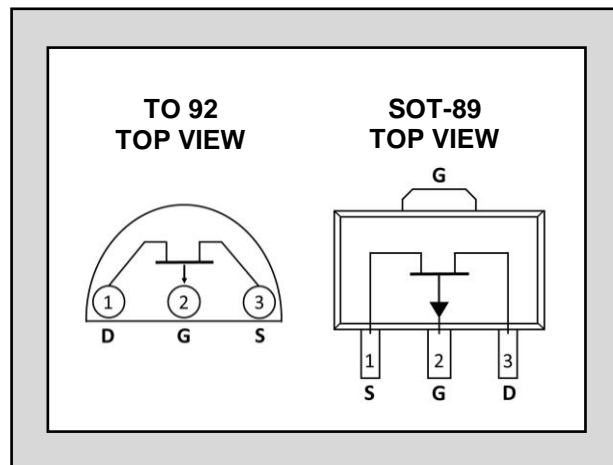
# LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

## LSJ74, SST74

ULTRA LOW NOISE  
SINGLE P-CHANNEL JFET

FEATURES	
ULTRA LOW NOISE ( $f = 1\text{kHz}$ )	$e_n = 0.9\text{nV}/\sqrt{\text{Hz}}$
HIGH GAIN	$G_{fs} = 22\text{mS (typ)}$
HIGH INPUT IMPEDANCE	$I_G = 1.0\text{nA}$
LOW CAPACITANCE	$C_{RSS} = 32\text{pF}$
IMPROVED SECOND SOURCE REPLACEMENT FOR 2SJ74	
ABSOLUTE MAXIMUM RATINGS <sup>1</sup> @ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150°C
Junction Operating Temperature	-55 to +135°C
Maximum Power Dissipation	
Continuous Power Dissipation	400mW
Maximum Currents	
Gate Forward Current	$I_{G(F)} = -10\text{mA}$
Maximum Voltages	
Gate to Drain Voltage	$V_{GDS} = 25\text{V}$
Gate to Source Voltage	$V_{GSS} = 25\text{V}$

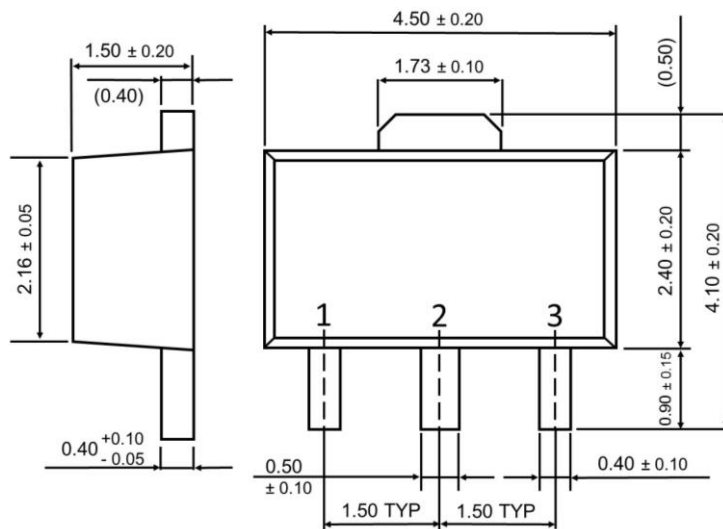


\* For equivalent N-Channel, see LSK170 family.

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

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$BV_{GDS}$	Gate to Drain Breakdown Voltage	25			V	$V_{DS} = 0\text{V}, I_G = 100\mu\text{A}$
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage	0.15		2		$V_{DS} = -10\text{V}, I_D = -0.1\mu\text{A}$
$I_{DSS}$	Drain to Source Saturation Current <sup>2</sup>	LSJ74A	-2.6	-6.5	mA	$V_{DG} = -10\text{V}, V_{GS} = 0\text{V}$
		LSJ74B	-6	-12		
		LSJ74C	-10	-20		
		LSJ74D	-17	-30		
$I_G$	Gate Operating Current		50		pA	$V_{DG} = -10\text{V}, I_D = -1\text{mA}$
$I_{GSS}$	Gate to Source Leakage Current			1	nA	$V_{GS} = 25\text{V}, V_{DS} = 0\text{V}$
$G_{fss}$	Full Conductance Transconductance	8	22		mS	$V_{DG} = -10\text{V}, V_{GS} = 0\text{V}, f = 1\text{kHz}$
$e_n$	Noise Voltage		0.9	1.9	$\text{nV}/\sqrt{\text{Hz}}$	$V_{DS} = -10\text{V}, I_D = -2\text{mA}, f = 1\text{kHz}, \text{NBW} = 1\text{Hz}$
			2.5	4		$V_{DS} = -10\text{V}, I_D = -2\text{mA}, f = 10\text{kHz}, \text{NBW} = 1\text{Hz}$
$C_{ISS}$	Common Source Input Capacitance		105		pF	$V_{DS} = -10\text{V}, V_{GS} = 0\text{V}, f = 1\text{MHz}$
$C_{RSS}$	Common Source Reverse Transfer Cap.		32			$V_{DS} = -10\text{V}, I_D = 0\text{A}, f = 1\text{MHz}$

## SOT-89



Dimensions in millimeters

Dimensions in inches

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Pulse test:  $PW \leq 300 \mu S$ , Duty Cycle  $\leq 3\%$ .
3. All MIN/TYP/MAX Limits are absolute values. Negative signs indicate negative electrical polarity only.

Information furnished by Linear Integrated Systems is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.

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.