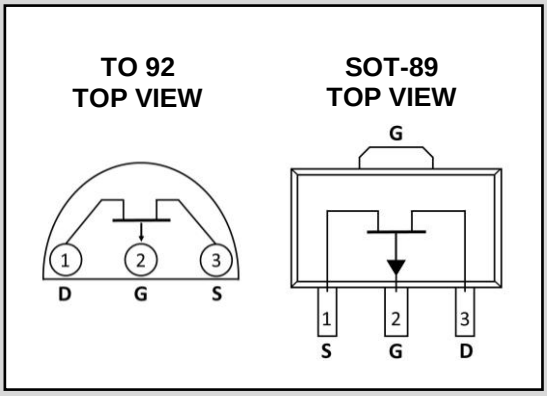
LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

LSJ74, SST74

ULTRA LOW NOISE SINGLE P-CHANNEL JFET

FEATURES	
ULTRA LOW NOISE (f = 1kHz)	e_n = 0.9nV/√Hz
HIGH GAIN	G_{fs} = 22mS (typ)
HIGH INPUT IMPEDANCE	I_G = 1.0nA
LOW CAPACITANCE	C_{RSS} = 32pF
IMPROVED SECOND SOURCE REPLACEMENT FOR 2SJ74	
ABSOLUTE MAXIMUM RATINGS[1] @ 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	$I_{G(F)}$ = -10mA
Maximum Voltages	
Gate to Drain Voltage	V_{GDS} = 25V
Gate to Source Voltage	V_{GSS} = 25V



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

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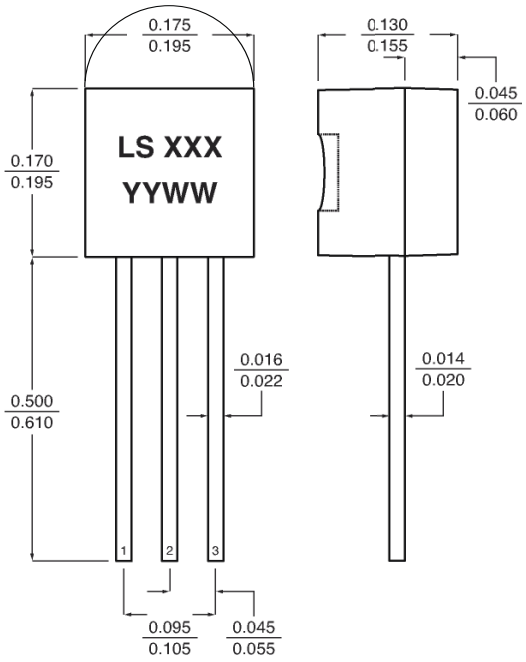
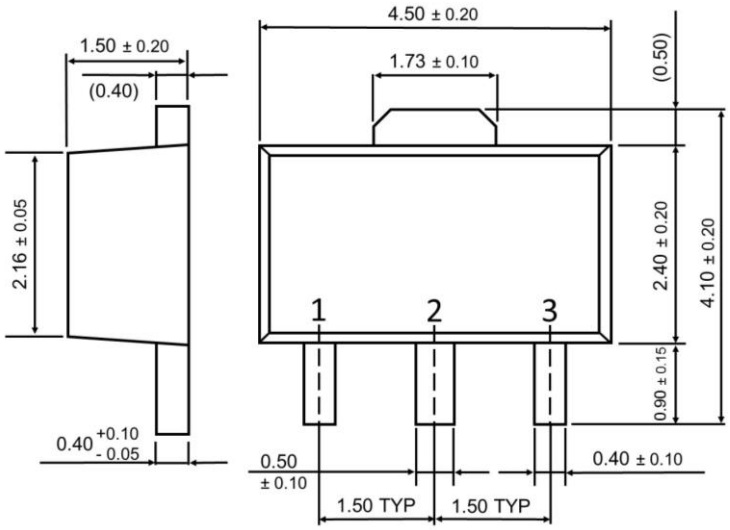


Dimensions in inches

SOT-89



Dimensions in millimeters

NOTES:

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Pulse test: PW ≤ 300 µS, Duty Cycle ≤ 3%.
3. All MIN/TYP/MAX Limits are absolute values. Negative signs indicate negative 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.