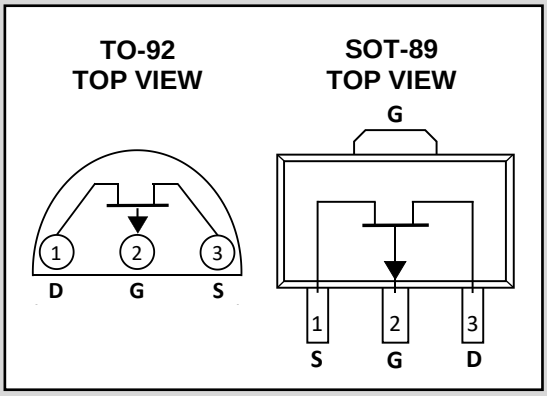
LINEAR SYSTEMS

Over 30 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



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			1.9		nV/√Hz	V_{DS} = -10V, I_D = -2mA, f = 1kHz, NBW = 1Hz
				4			V_{DS} = -10V, I_D = -2mA, f = 10Hz, 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

Linear Integrated Systems

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LSJ74
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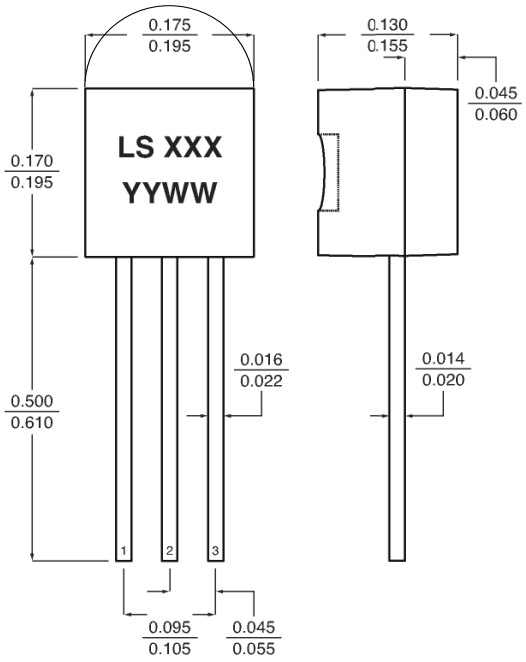
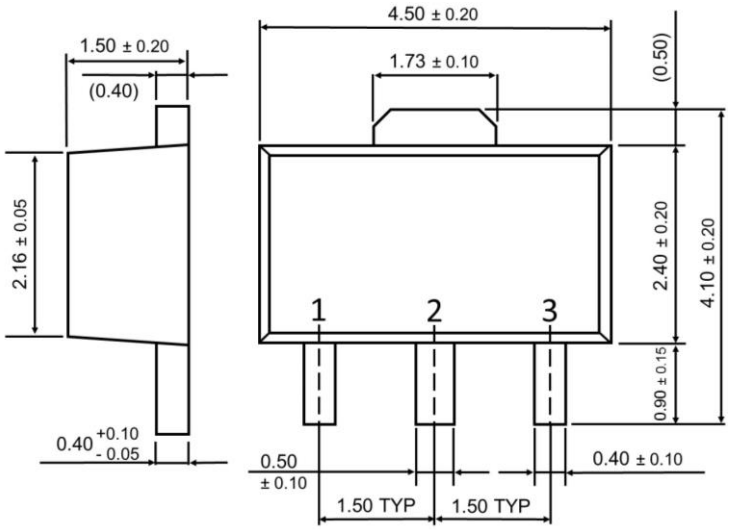


Dimensions in inches

SST74
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 develops and produces the highest performance semiconductors of their kind in the industry. Linear Systems, founded in 1987, uses patented and proprietary processes and designs to create its high performance discrete semiconductors. Expertise brought to the company is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company founder John H. Hall.

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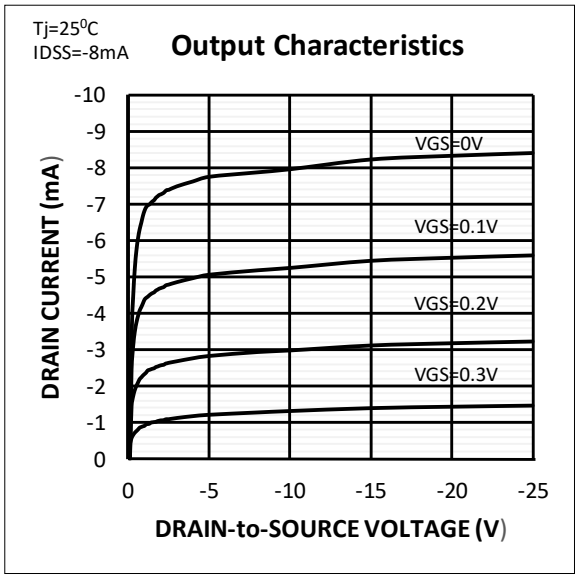
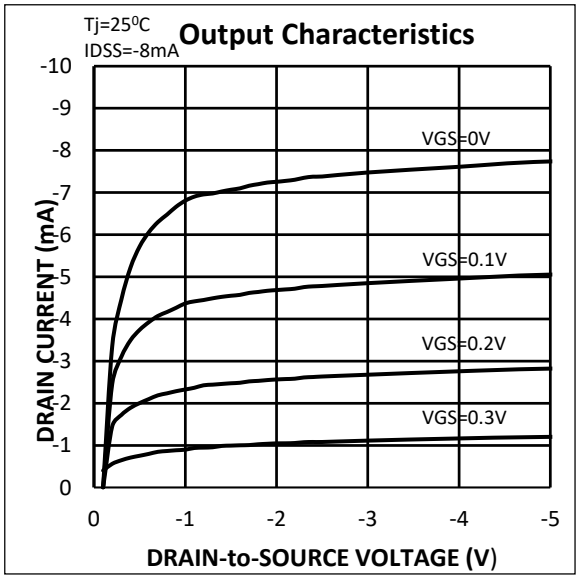
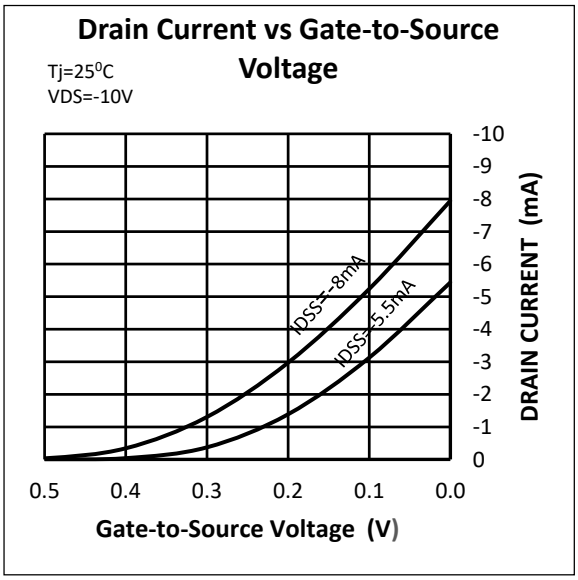
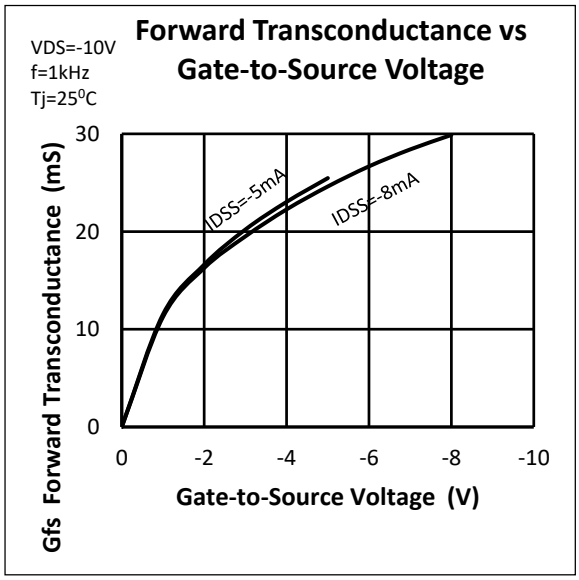
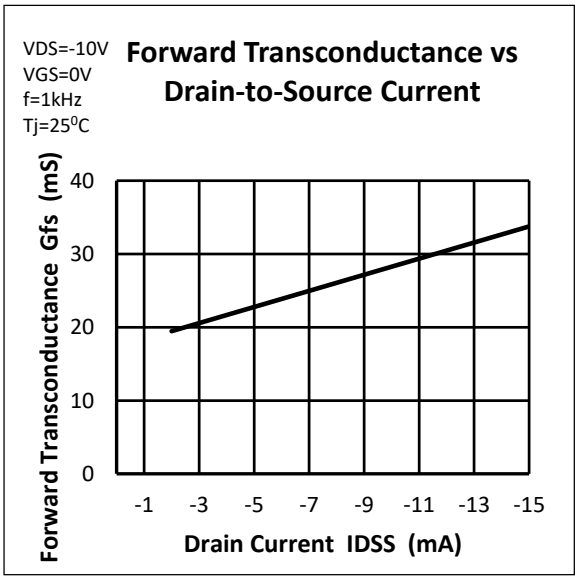
TYPICAL CHARACTERISTICS

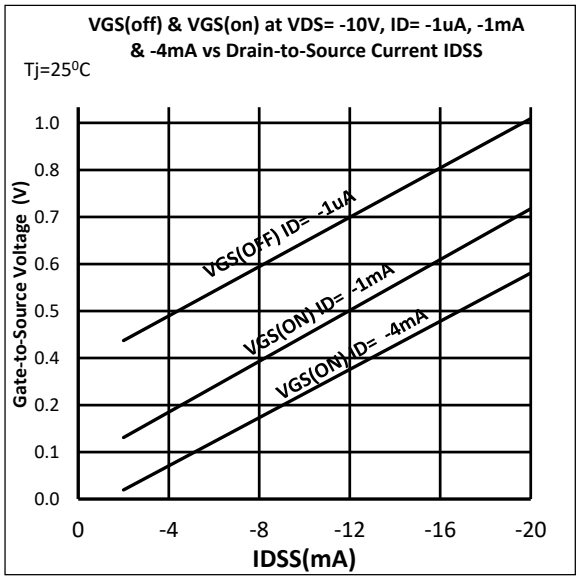












TYPICAL CHARACTERISTICS (CONT'D)