

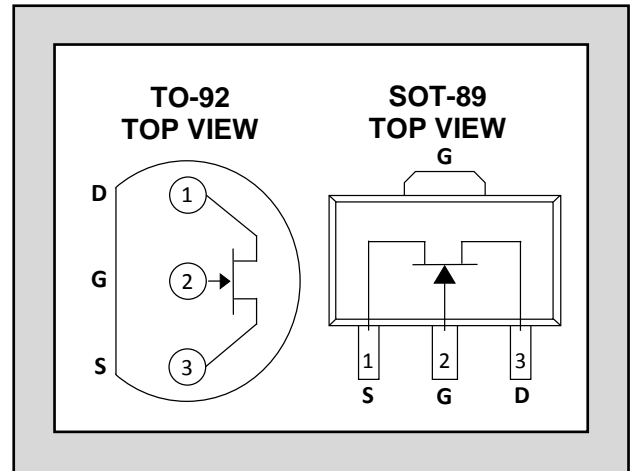
LINEAR SYSTEMS

Over 30 Years of Quality Through Innovation

LS190

GENERAL PURPOSE
SINGLE N-CHANNEL
JFET AMPLIFIER

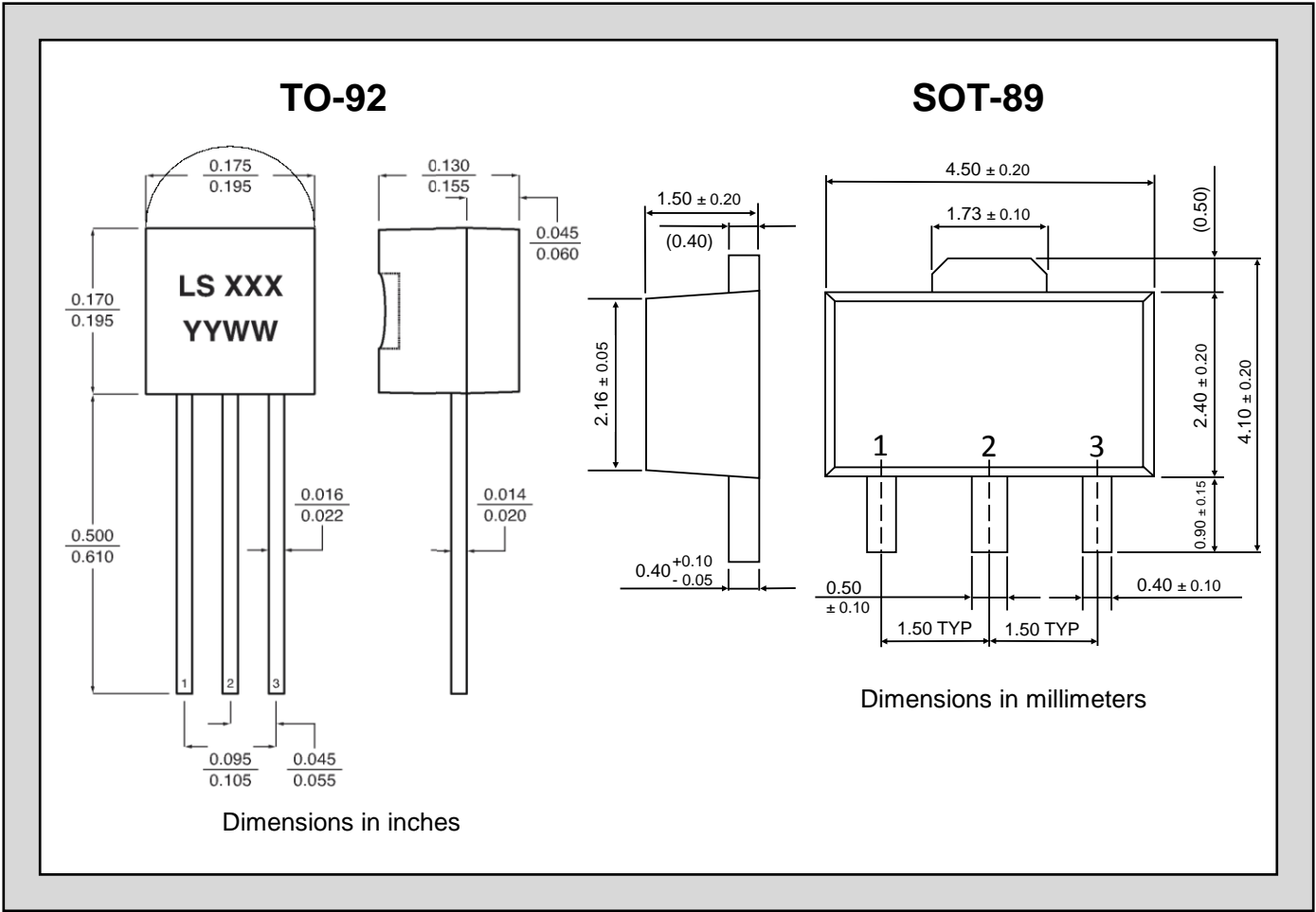
FEATURES	
HIGH BREAKDOWN VOLTAGE	$BV_{GSS}=40V$ max
HIGH GAIN	$G_{fs}=22mS$ (typ)
HIGH INPUT IMPEDENCE	$I_G=-500pA$ max
LOW CAPACITANCE	20pF (typ)
ABSOLUTE MAXIMUM RATINGS ¹	
TA = 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Operating Junction Temperature	-55 to +135 °C
Maximum Power Dissipation	
Continuous Power Dissipation (TO-92)	400mW ⁴
Continuous Power Dissipation (SOT-89)	1.4W ^{5,6}
Maximum Currents	
Gate Forward Current	$I_{G(F)}=10mA$
Maximum Voltages	
Gate to Source	$V_{GS}=40V$
Gate to Drain	$V_{GD}=40V$



*For equivalent monolithic dual, see LSK589

ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	-40			V	$V_{DS}=0, I_D=100\mu A$
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage	-0.2		-2	V	$V_{DS}=10V, I_D=1nA$
V_{GS}	Gate to Source Operating Voltage		-0.5		V	$V_{DS}=10V, I_D=1mA$
I_{DSS}	Drain to Source Saturation Current	2.6		30	mA	$V_{DS}=10V, V_{GS}=0$
I_G	Gate Operating Current			-0.5	nA	$V_{DG}=10V, I_D=1mA$
I_{GSS}	Gate to Source Leakage Current			-1	nA	$V_{GS}=-10V, V_{DS}=0$
G_{fs}	Full Conduction Transconductance		22		mS	$V_{GD}=10V, V_{GS}=0, f=1kHz$
G_{fs}	Typical Conduction Transconductance		10		mS	$V_{DG}=15V, I_D=1mA$
$R_{DS(on)}$	Drain to Source on Resistance		75	150	Ω	$V_{GS}=0V, I_D=-1mA$
C_{ISS}	Common Source Input Capacitance		20		pF	$V_{DS}=15V, I_D=100\mu A, f=1MHz$
C_{RSS}	Common Source Reverse Transfer Cap.		5		pF	



NOTES:

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. Derate $2.8mW/^{\circ}C$ above $TA = 25^{\circ}C$
4. Mounted on FR5 board, $25mm \times 25mm \times 1.57mm$
5. Derate by $25mW/^{\circ}C$ above $25^{\circ}C$
6. All characteristics MIN/TYP/MAX numbers are absolute values. Negative values indicate electrical polarity only.

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