

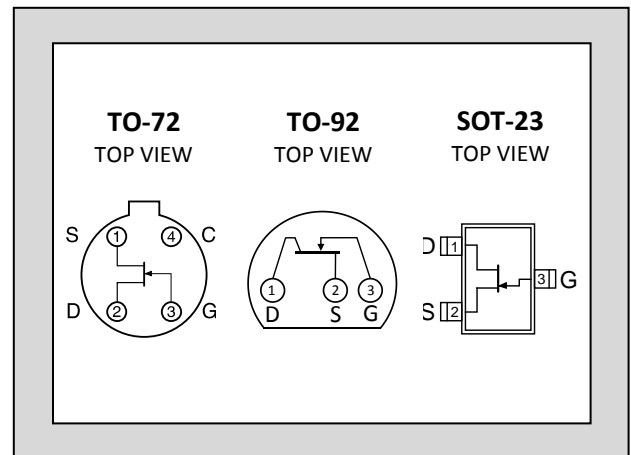
LINEAR SYSTEMS

Over Three Decades of Quality Through Innovation

LS846

LOW NOISE LOW LEAKAGE
SINGLE N-CHANNEL
JFET AMPLIFIER

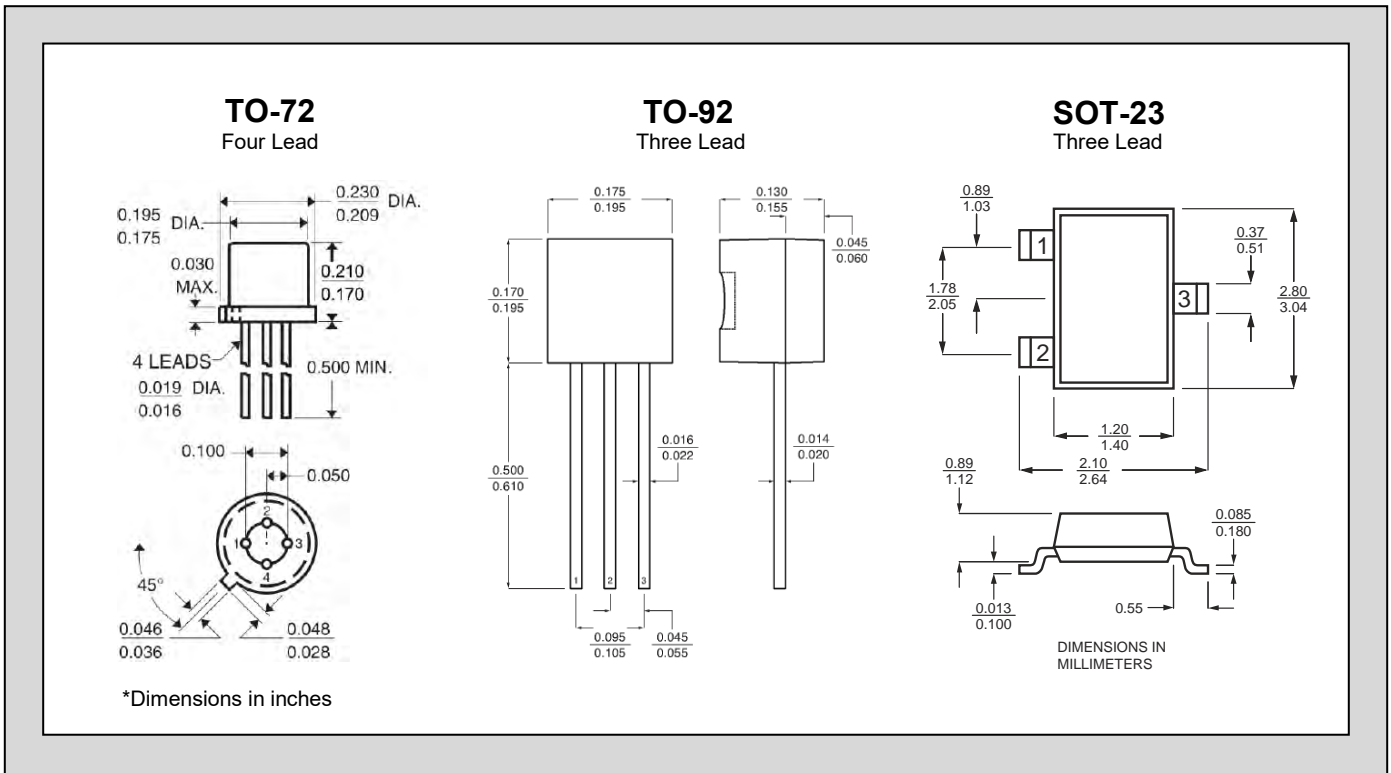
FEATURES	
ULTRA LOW NOISE	$e_n = 3nV/\sqrt{Hz}$
LOW INPUT CAPACITANCE	$C_{iss} = 4pF$
ABSOLUTE MAXIMUM RATINGS¹ @ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150°C
Operating Junction Temperature	-55 to +150°C
Maximum Power Dissipation	
Continuous Power Dissipation TA=25°C	300mW ³
Maximum Currents	
Gate Forward Current	$I_{G(F)} = 10mA$
Maximum Voltages	
Gate to Source	$V_{GSO} = 60V$
Gate to Drain	$V_{GDO} = 60V$



*For equivalent Monolithic Dual, see LS843 Family

SYMBOL	CHARACTERISTIC ²	MIN	TYP	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	-60			V	$V_{DS} = 0, I_D = 1nA$
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage	-1		-3.5	V	$V_{DS} = 15V, I_D = 1nA$
V_{GS}	Gate to Source Operating Voltage	-0.5		-3.5	V	$V_{DS} = 15V, I_D = 500\mu A$
I_{DSS}	Drain to Source Saturation Current	1.5	5	15	mA	$V_{DS} = 15V, V_{GS} = 0$
I_G	Gate Operating Current		-15	-50	pA	$V_{DG} = 15V, I_D = 500\mu A$
I_G	Gate Operating Current Reduced V_{DG}		-5	-30	pA	$V_{DG} = 3V, I_D = 500\mu A$
I_{GSS}	Gate to Source Leakage Current			-100	pA	$V_{GS} = 15V, V_{DS} = 0$
G_{fss}	Full Conductance Transconductance	1500			μS	$V_{DS} = 15V, V_{GS} = 0, f = 1kHz$
G_{fs}	Typical Operation Transconductance	1000	1500		μS	$V_{DS} = 15V, I_D = 200\mu A$
G_{OSS}	Full Output Conductance			40	μS	$V_{DS} = 15V, V_{GS} = 0$
G_{OS}	Typical Operation Output Conductance		2.0	2.70	μS	$V_{DS} = 15V, I_D = 200\mu A$
NF	Noise Figure			0.5	dB	$V_{DS} = 15V, V_{GS} = 0, R_G = 10M\Omega, f = 100Hz, NBW = 6Hz$
e_n	Noise Voltage		3	7	nV/\sqrt{Hz}	$V_{DS} = 15V, I_D = 500\mu A, f = 1kHz, NBW = 1Hz$
e_n	Noise Voltage			11	nV/\sqrt{Hz}	$V_{DS} = 15V, I_D = 500\mu A, f = 10Hz, NBW = 1Hz$
C_{ISS}	Common Source Input Capacitance		4	8	pF	$V_{DS} = 15V, I_D = 500\mu A, f = 1MHz$
C_{RSS}	Common Source Reverse Transfer Cap.			3	pF	

STANDARD PACKAGE DIMENSIONS:



NOTES:

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. All MIN/TYP/MAX limits are absolute numbers. Negative signs indicate negative electrical polarity only.
3. Derate 2.8mW/°C above 25°C.

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