

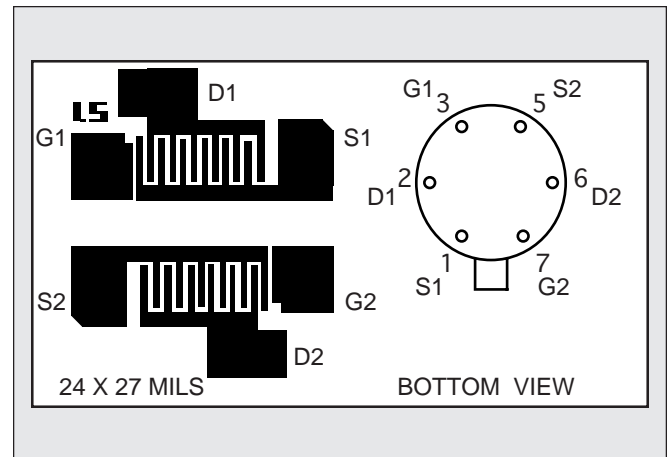
# LINEAR SYSTEMS

Linear Integrated Systems

## LS5911 LS5912 LS5912C

WIDEBAND HIGH GAIN  
MONOLITHIC DUAL N-CHANNEL JFET

FEATURES		
HIGH TRANSCONDUCTANCE THROUGH 100MHz	$g_{fs} > 4000 \mu\text{mho}$	
LOW INPUT CAPACITANCE	$C_{ISS} = 5\text{pf max.}$	
SECOND SOURCE ALTERNATIVE TO INTERSIL, NATIONAL, SILICONIX DIRECT PLUG IN REPLACEMENT		
ABSOLUTE MAXIMUM RATINGS NOTE 1		
@ 25°C (unless otherwise noted)		
Maximum Temperatures		
Storage Temperature	-65° to +150°C	
Operating Junction Temperature	+150°C	
Maximum Voltage and Current for Each Transistor NOTE 1		
$-V_{GSS}$	Gate Voltage to Drain or Source	35V
$-V_{DSO}$	Drain to Source Voltage	30V
$-I_{G(f)}$	Gate Forward Current	50mA
Maximum Power Dissipation		
Device Dissipation @ Free Air - Total	500mW @ +125°C	



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

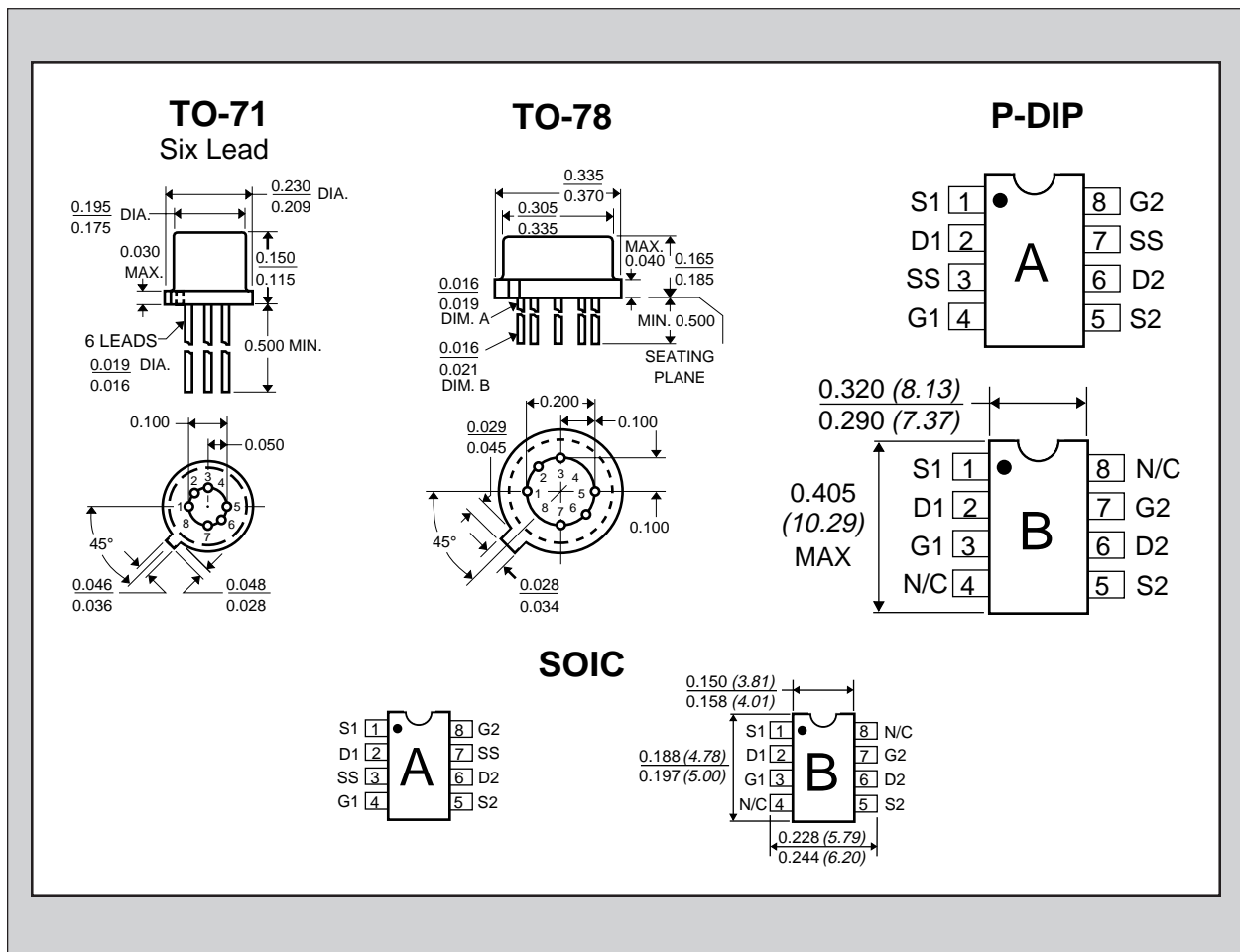
SYMBOL	CHARACTERISTICS	LS5911	LS5912	LS5912C	UNITS	CONDITIONS
$\Delta V_{GS1} - V_{GS2}  / \Delta T$	Drift vs. Temperature	20	40	40	MAX.	$\mu\text{V}/^\circ\text{C}$ $V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
$ V_{GS1} - V_{GS2} $	Offset Voltage	10	15	40	MAX.	mV $V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$

SYMBOL	CHARACTERISTICS	MIN.	MAX.	UNITS	CONDITIONS
$BV_{GSS}$	Gate-Source Breakdown Voltage	25	--	V	$I_G = -1\mu\text{A}$ $V_{DS} = 0$
<b>TRANSCONDUCTANCE</b>					
$g_{fs}$	Common-Source Forward	4000	10,000	$\mu\text{mho}$	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $f = 1\text{kHz}$
$g_{fs}$	Common-Source Forward	4000	10,000	$\mu\text{mho}$	$f = 100\text{MHz}$
$ g_{fs1} / g_{fs2} $	Transconductance Ratio	0.95	1	%	$f = 1\text{kHz}$ <b>NOTE 2</b>
<b>DRAIN CURRENT</b>					
$I_{DSS}$	Saturation Drain Current	7	40	mA	$V_{DS} = 10\text{V}$ $V_{GS} = 0\text{V}$
$ I_{DSS1} / I_{DSS2} $	Saturation Drain Current Ratio	0.95	1	%	<b>NOTE 2</b>
<b>GATE VOLTAGE</b>					
$V_{GS(\text{off})}$ or $V_P$	Pinchoff Voltage	1	5	V	$V_{DS} = 10\text{V}$ $I_D = 1\text{nA}$
$V_{GS}$	Gate-Source Voltage	0.3	4	V	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$
<b>GATE CURRENT</b>					
$-I_G$	Operating	--	50	pA	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$
$-I_G$	High Temperature	--	50	nA	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $T_A = +125^\circ\text{C}$
$ I_{G1} - I_{G2} $	Differential Gate Current	--	20	nA	
$-I_{GSS}$	At Full Conduction	--	50	pA	$V_{DG} = 15\text{V}$ $V_{DS} = 0$
$-I_{GSS}$	High Temperature	--	200	nA	$T_A = +125^\circ\text{C}$

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SYMBOL	CHARACTERISTICS	MIN.	TYP.	MAX.	UNITS	CONDITIONS
$G_{OS}$	<b>OUTPUT CONDUCTANCE</b> Common-Source Output Conductance	--	--	100	$\mu\text{mho}$	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $f = 1\text{kHz}$
$G_{OS}$	Common-Source Output Conductance	--	--	150	$\mu\text{mho}$	$f = 100\text{MHz}$
	<b>NOISE</b>					
NF	Figure	--	--	1	dB	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $R_G = 100\text{k}\Omega$ $f = 10\text{kHz}$
$e_n$	Voltage	--	--	20	$\text{nV}/\sqrt{\text{Hz}}$	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $f = 10\text{KHz}$
	<b>CAPACITANCE</b>					
$C_{ISS}$	Input	--	--	5	pF	$V_{DG} = 10\text{V}$ $I_D = 5\text{mA}$ $f = 1\text{MHz}$
$C_{RSS}$	Reverse Transfer	--	--	1.2	pF	



**NOTES:**

1. These ratings are limiting values above which the serviceability of any semiconductor may be impaired.
2. Assumes smaller value in numerator.