

LINEAR SYSTEMS

Linear Integrated Systems

LS5911 LS5912 LS5912C

WIDEBAND HIGH GAIN
MONOLITHIC DUAL N-CHANNEL JFET

FEATURES

HIGH TRANSCONDUCTANCE THROUGH 100MHz	$g_{fs} > 4000 \mu mho$
LOW INPUT CAPACITANCE	$C_{iss} = 5pf \text{ max.}$
SECOND SOURCE ALTERNATIVE TO INTERSIL, NATIONAL, SILICONIX DIRECT PLUG IN REPLACEMENT	

ABSOLUTE MAXIMUM RATINGS NOTE 1

@ 25°C (unless otherwise noted)

Maximum Temperatures

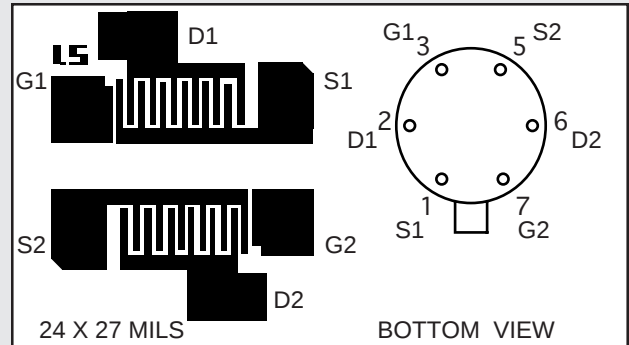
Storage Temperature	-65° to +150°C
Operating Junction Temperature	+150°C

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
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ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

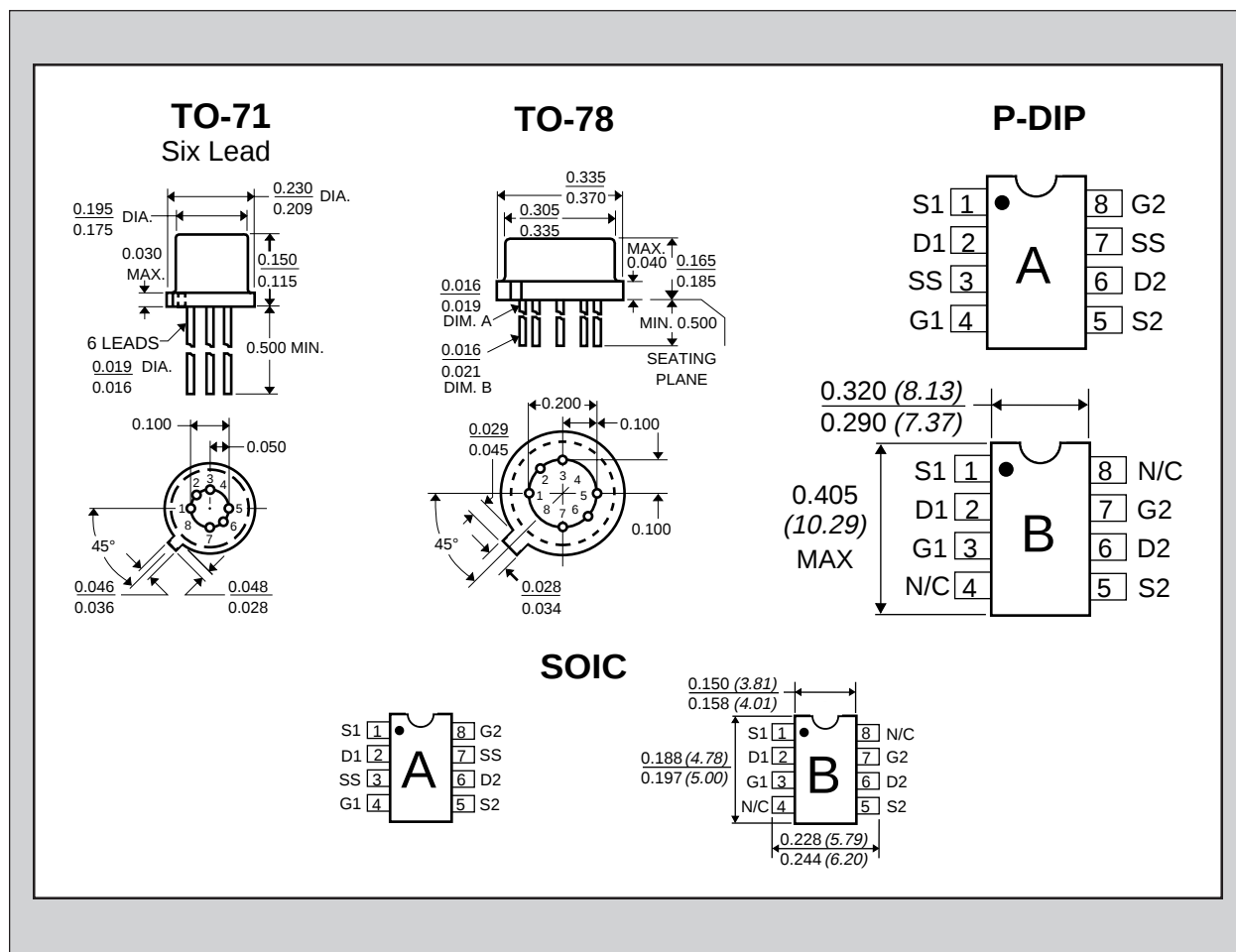
SYMBOL	CHARACTERISTICS	LS5911	LS5912	LS5912C	UNITS	CONDITIONS
$\Delta V_{GS1} - V_{GS2} / \Delta T$	Drift vs. Temperature	20	40	40	MAX.	$\mu V/^{\circ}C$
$ V_{GS1} - V_{GS2} $	Offset Voltage	10	15	40	MAX.	mV

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

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