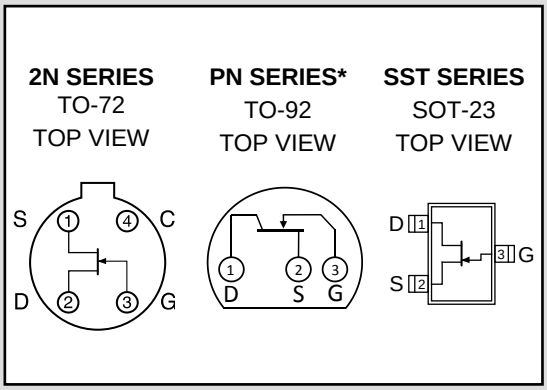
LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

2N/PN SST4416 2N4416A

N-CHANNEL JFET
HIGH FREQUENCY AMPLIFIER

FEATURES	
Replacement For SILICONIX 2N/SST4416 & 2N4416A	
VERY LOW NOISE FIGURE (400 MHz)	4 dB
EXCEPTIONAL GAIN (400 MHz)	10 dB
ABSOLUTE MAXIMUM RATINGS[1] @ 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	300mW
Maximum Currents	
Gate Current	10mA
Maximum Voltages	
Gate to Drain or Gate to Source 2N4416	-30V
Gate to Drain or Gate to Source 2N4416A	-35V



*Optional Package for 2N4416

ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC		MIN	TYP	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	2N/PN/SST4416	-30			V	I_G = -1µA, V_{DS} = 0V
		2N4416A	-35				
$V_{GS(off)}$	Gate to Source Cutoff Voltage	2N/PN/SST4416			-6		V_{DS} = 15V, I_D = 1nA
		2N4416A	-2.5		-6		
I_{DSS}	Gate to Source Saturation Current		5		15	mA	V_{DS} = 15V, V_{GS} = 0V
I_{GSS}	Gate Leakage Current	2N			-0.1	nA	V_{GS} = -20V, V_{DS} = 0V
		PN/SST			-1.0		V_{GS} = -15V, V_{DS} = 0V
g_{fs}	Forward Transconductance		4000		7500	µS	V_{DS} = 15V, V_{GS} = 0V, *f* = 1kHz
g_{os}	Output Conductance				100		
C_{iss}	Input Capacitance[2]				0.8	pF	V_{DS} = 15V, V_{GS} = 0V, *f* = 1MHz
C_{rss}	Reverse Transfer Capacitance[2]				4		
C_{oss}	Output Capacitance[2]				2		
e_n	Equivalent Input Noise Voltage			6		nV/√Hz	V_{DS} = 10V, V_{GS} = 0V, *f* = 1kHz

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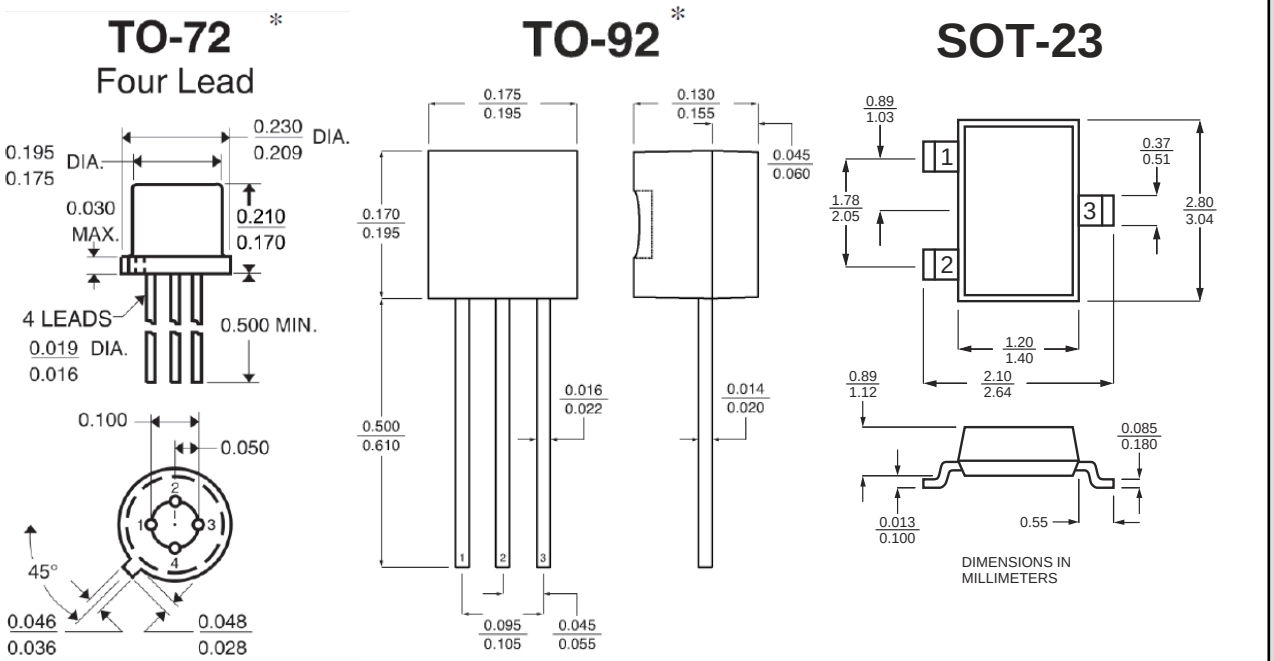
HIGH FREQUENCY ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	100 MHz		400 MHz		UNITS	CONDITIONS
		MIN	MAX	MIN	MAX		
g_{iss}	Input Conductance[2]		100		1000	µS	V_{DS} = 15V, V_{GS} = 0V
b_{iss}	Input Susceptance[2]		2500		10000		
g_{oss}	Output Conductance[2]		75		100		
b_{oss}	Output Susceptance[2]		1000		4000		
G_{fs}	Forward Transconductance[2]			4000			
G_{ps}	Power Gain[2]	18		10		dB	V_{DS} = 15V, I_D = 5mA
NF	Noise Figure[2]		2		4		V_{DS} = 15V, I_D = 5mA, R_G = 1kΩ



*Dimensions in inches

NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Not production tested, guaranteed by design.

Linear Integrated Systems (LIS) is a 25-year-old, third-generation precision semiconductor company providing high-quality discrete components. Expertise brought to LIS is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company President John H. Hall. Hall, a protégé of Silicon Valley legend Dr. Jean Hoerni, was the director of IC Development at Union Carbide, co-founder and vice president of R&D at Intersil, and founder/president of Micro Power Systems.

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