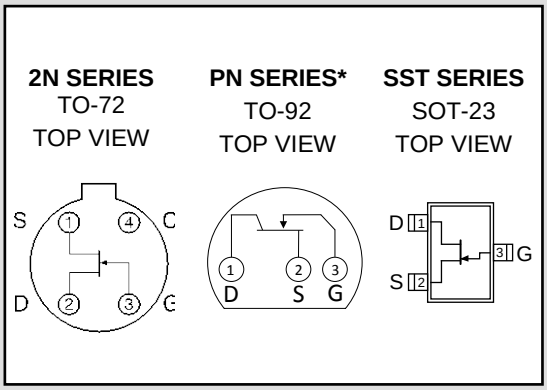
LINEAR SYSTEMS

Improved Standard Products®

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

Linear Integrated Systems

• 4042 Clipper Court • Fremont, CA 94538 • Tel: 510 490-9160 • Fax: 510 353-0261

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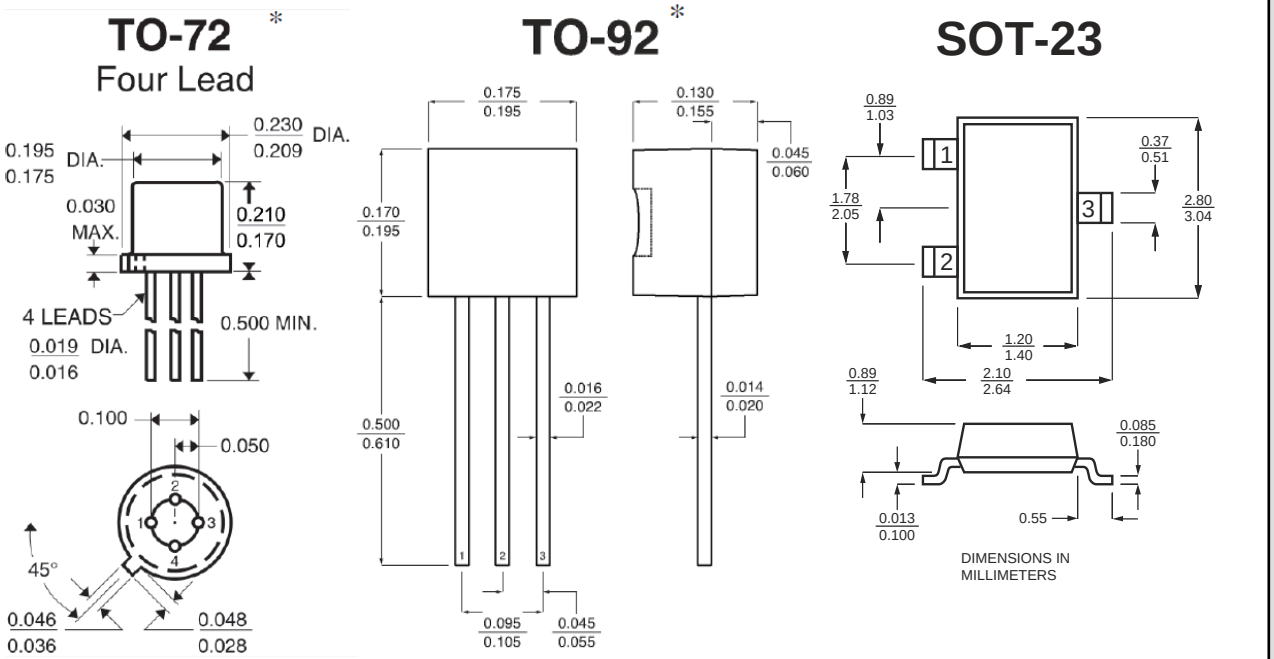
HIGH FREQUENCY ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

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 develops and produces the highest performance semiconductors of their kind in the industry. Linear Systems, founded in 1987, uses patented and proprietary processes and designs to create its high performance discrete semiconductors. Expertise brought to the company is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company founder John H. Hall.