

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 RATINGS¹

@ 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

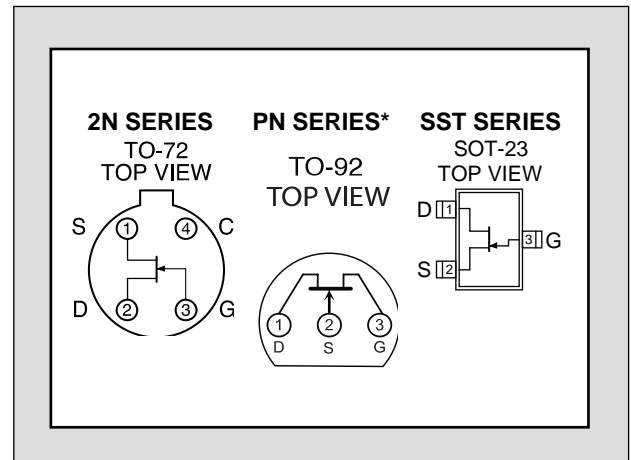
Maximum Currents

Gate Current 10mA

Maximum Voltages

Gate to Drain or Gate to Source 2N4416 -30V

Gate to Drain or Gate to Source 2N4416A -35V



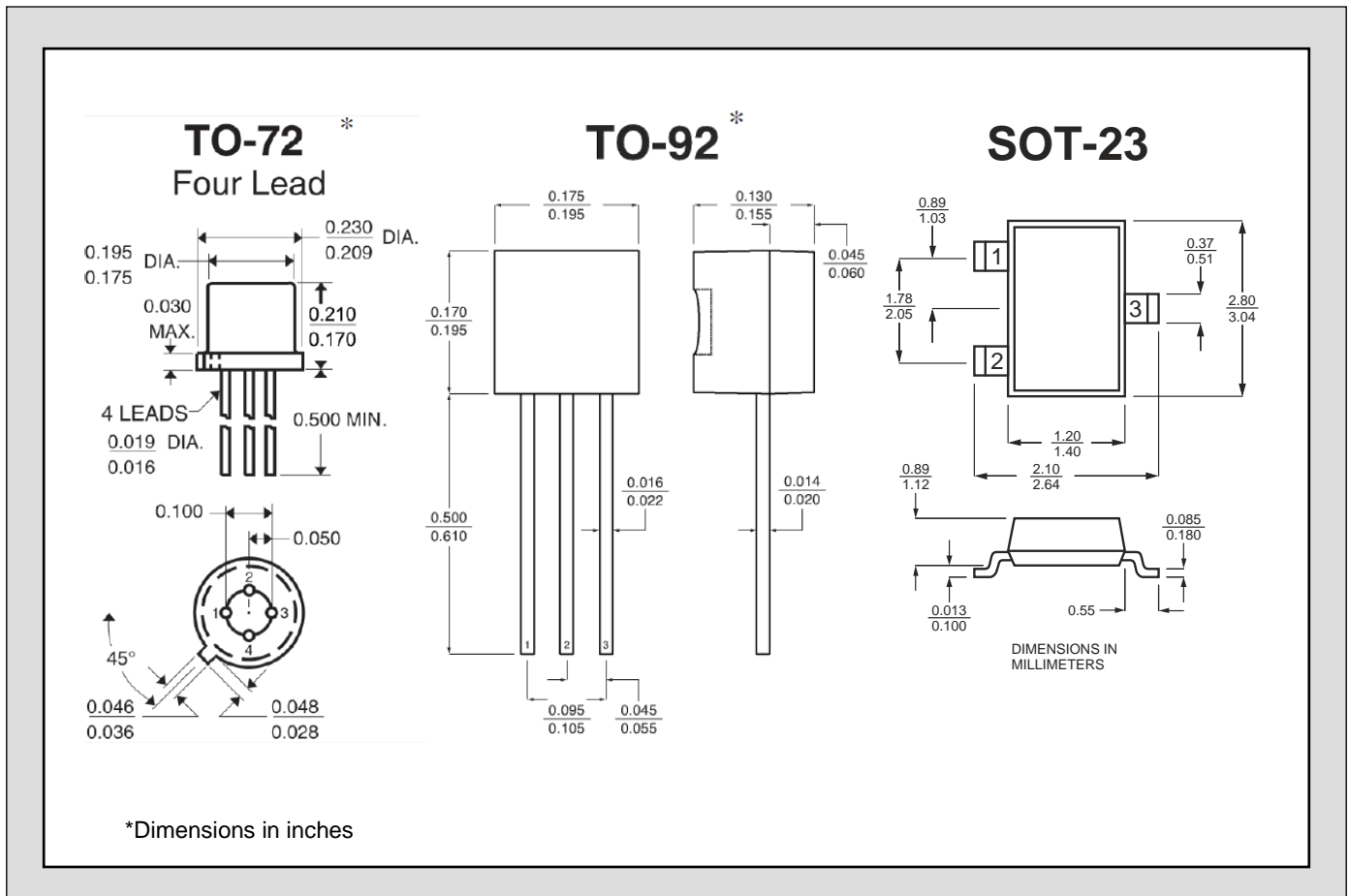
*Optional Package For 2N4416

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		nA	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	

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		$V_{DS} = 15V, I_D = 5mA, R_G = 1k\Omega$



NOTES

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

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