

Linear Systems replaces discontinued Siliconix PN4416A

The PN4416A is a N-Channel high frequency JFET amplifier

The PN4416A N-channel JFET is designed to provide high-performance amplification at high frequencies.

The hermetically sealed TO-72 package is well suited for military applications. The TO-92 package provides a lower cost commercial option

PN4416A Benefits:

- Wideband High Gain
- Very High System Sensitivity
- High Quality of Amplification
- High-Speed Switching Capability
- High Low-Level Signal Amplification

PN4416A Applications:

- High-Frequency Amplifier / Mixer
- Oscillator
- Sample-and-Hold
- Very Low Capacitance Switches

FEATURES

DIRECT REPLACEMENT FOR SILICONIX PN4416A

EXCEPTIONAL GAIN (400 MHz)	10dB (min)
VERY LOW NOISE FIGURE (400 MHz)	4dB (max)

VERY LOW DISTORTION
HIGH AC/DC SWITCH OFF-ISOLATION

ABSOLUTE MAXIMUM RATINGS
@ 25°C (unless otherwise noted)

Maximum Temperatures

Storage Temperature	-65°C to +200°C
Operating Junction Temperature	-55°C to +135°C

Maximum Power Dissipation

Continuous Power Dissipation	300mW
------------------------------	-------

MAXIMUM CURRENT

Gate Current (Note 1)	10mA
-----------------------	------

MAXIMUM VOLTAGES

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

PN4416A ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	-35	--	--	V	$I_G = -1\mu A, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-2.5	--	-6	V	$V_{DS} = 15V, I_D = 1nA$
I_{DSS}	Gate to Source Saturation Current	5	--	15	mA	$V_{DS} = 15V, V_{GS} = 0V$
I_{GSS}	Gate Leakage Current	--	--	-0.1	nA	$V_{GS} = -20V, V_{DS} = 0V$
g_{fs}	Forward Transconductance	4500	--	7500	μS	$V_{DS} = 15V, V_{GS} = 0V, f = 1kHz$
g_{os}	Output Conductance	--	--	50	μS	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$
C_{iss}	Input Capacitance ²	--	--	0.8	pF	
C_{rss}	Reverse Transfer Capacitance ²	--	--	4	pF	
C_{oss}	Output Capacitance ²	--	--	2	pF	
e_n	Equivalent Input Noise Voltage	--	6	--	nV/√Hz	$V_{DS} = 10V, V_{GS} = 0V, f = 1kHz$

PN4416A HIGH FREQUENCY ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

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

- NOTES**
- Absolute maximum ratings are limiting values above which PN4416A serviceability may be impaired.
 - Not production tested, guaranteed by design

Micross Components Europe

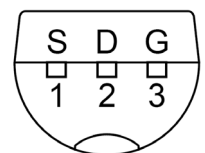
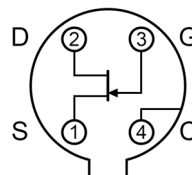
Available Packages:

TO-72 (Bottom View)

TO-92 (Bottom View)



PN4416A in TO-72
PN4416A in TO-92
PN4416A in bare die.



Tel: +44 1603 788967

Email: chipcomponents@micross.com

Web: <http://www.micross.com/distribution>

Please contact Micross for full package and die dimensions

www.DataSheet4U.com

Information furnished by Linear Integrated Systems and Micross Components is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.