

Linear Systems replaces discontinued Siliconix 2N4416

The 2N4416 is a N-Channel high frequency JFET amplifier

The 2N4416 N-channel JFET is designed to provide high-performance amplification at high frequencies.

The hermetically sealed TO-18 package is well suited for military applications and harsh environment applications.

2N4416 Benefits:

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

2N4416 Applications:

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

FEATURES

DIRECT REPLACEMENT FOR SILICONIX 2N4416

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 -30V

2N4416 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
BV_{GS}	Gate to Source Breakdown Voltage	-30	--	--	V	$I_G = -1\mu A, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	--	--	-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/ \sqrt{Hz}	$V_{DS} = 10V, V_{GS} = 0V, f = 1kHz$

2N4416 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	--		
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

- Absolute maximum ratings are limiting values above which 2N4416 serviceability may be impaired.
- Not production tested, guaranteed by design

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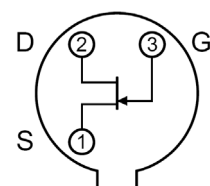
Web: <http://www.micross.com/distribution>

Available Packages:

2N4416 in TO-18
2N4416 in bare die.

Please contact Micross for full package and die dimensions

TO-18 (Bottom View)



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