

SST4416

FEATURES

- High Gain >4.5 mS
- High Frequency Operation >400 MHz
- Low Noise

APPLICATIONS

- VHF/UHF Amplifiers
- Oscillators
- Mixers

DESCRIPTION

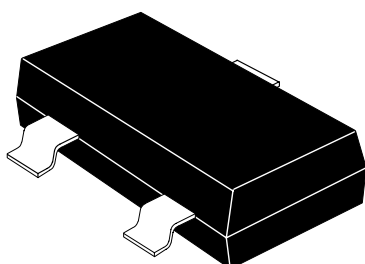
Calogic's SST4416 is an N-Channel JFET housed in a surface mount SOT-23 plastic package. The device is well suited for designs that require low noise at high frequencies (4 dB maximum at 400 MHz) while maintaining high gain.

ORDERING INFORMATION

Part	Package	Temperature Range
SST4416	Plastic SOT-23 Package	-55°C to +150°C

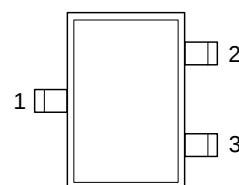
NOTE: For Sorted Chips in Carries, See 2N4416 Series

PIN CONFIGURATION



CJ1

- 1 GATE
- 2 SOURCE
- 3 DRAIN



TOP VIEW

PRODUCT MARKING

SST4416

Z16

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter/Test Condition	Symbol	Limit	Unit
Gate-Drain Voltage	V_{GD}	-30	V
Gate-Source Voltage	V_{GS}	-30	V
Gate Current	I_G	10	mA
Power Dissipation	P_D	350	mW
Power Derating		3.18	mW/ $^{\circ}\text{C}$
Operating Junction Temperature	T_J	-55 to 130	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-65 to 150	$^{\circ}\text{C}$
Lead Temperature (1/16" from case for 10 seconds)	T_L	300	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	CHARACTERISTICS	TYP ¹	MIN	MAX	UNIT	TEST CONDITIONS		
STATIC								
V _{(BR)GSS}	Gate-Source Breakdown Voltage	-35	-30		V	I _G = -1mA, V _{DS} = 0V		
V _{GS(OFF)}	Gate-Source Cut off Voltage	-3		-6		V _{DS} = 15V, I _D = 1nA		
I _{DSS}	Saturation Drain Current	10	5	15	mA	V _{DS} = 15V, V _{GS} = 0V		
I _{GSS}	Gate Reverse Current	-0.002		-1	nA	V _{GS} = -15V, V _{DS} = 0V		
		-0.6			mA	T _A = 125 ^o C		
DYNAMIC								
g _{fs}	Common-Source Forward Transconductance	6.5	4.5	7.5	mS	V _{DS} = 15V, V _{GS} = 0V f = 1kHz		
g _{os}	Common-Source Output Conductance	15		50	mS			
C _{iss}	Common-Source Input Capacitance	2.0		4	pF	V _{DS} = -15V, V _{GS} = 0V f = 1MHz		
C _{rss}	Common-Source Reverse Transfer Capacitance	0.7		0.8				
C _{oss}	Common-Source Output Capacitance	1		2				
HIGH-FREQUENCY			100MHz		400MHz			
			MIN	MAX	MIN	MAX		
g _{iss}	Common-Source Input Conductance			100		1000	mS	V _{DS} = 15V, V _{GS} = 0V
b _{iss}	Common-Source Input Subceptance			2500		10,000		
g _{oss}	Common-Source Output Conductance			75		100		
b _{oss}	Common-Source Output Subceptance			1000		4000		
g _{fg}	Common-Source Forward Transconductance				4000			
G _{pg}	Common-Source Power Gain		18		10		dB	V _{DS} = 15V, I _D = 5mA
NF	Noise Figure			2		4		V _{DS} = 15V, I _D = 5mA, R _G = 1kW

NOTES: 1. Pulse test duration = 300s.