

n-channel JFET designed for . . .



Performance Curves NH
See Section 5

■ Analog Switches

■ Choppers

■ Commutators

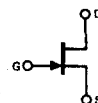
BENEFITS

- Low Cost
- Automatic Insertion Package
- No Offset or Error Voltages Generated by Closed Switch
Purely Resistive
- Low Charge Coupling from Driver to Load
 $C_{rss} = 0.8 \text{ pF}$ Typically

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage -25 V
 Gate Current 10 mA
 Total Device Dissipation at (or Below) $T_A = 25^\circ\text{C}$. . 360 mW
 (Derate 3.28 mW/°C to 135°C)
 Operating Temperature Range -55 to +135°C
 Storage Temperature Range -65 to +150°C
 Lead Temperature
 (1/16" from case for 10 seconds) 240°C

TO-92
See Section 7

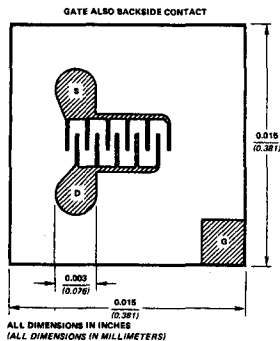


*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

Characteristic				Min	Max	Unit	Test Conditions	
1	S T A T I C	I _{GSS}	Gate Reverse Current		-1.0	nA	V _{GS} = -15 V, V _{DS} = 0	T _A = 100°C
2					-0.2	μA		
3		I _{DGO}	Drain Leakage Current		1.0	nA	V _{DG} = 15 V, I _S = 0	T _A = 100°C
4					0.2	μA		
5		I _{D(off)}	Drain Cutoff Current		10	nA	V _{DS} = 12 V, V _{GS} = -10 V	T _A = 100°C
6					2.0	μA		
7	D Y N	BV _{GSS}	Gate-Source Breakdown Voltage	-25		V	I _G = -10 μA, V _{DS} = 0	
8		V _{GS(f)}	Gate-Source Forward Voltage		1.0		I _G = 1 mA, V _{DS} = 0	
9		V _{DS(on)}	Drain-Source ON Voltage		1.5		I _D = 7 mA, V _{GS} = 0	
10		r _{DS(on)}	Static Drain-Source ON Resistance		150		Ω	I _D = 0.1 mA, V _{GS} = 0
11	S W I T C H	I _{DSS}	Saturation Drain Current	15		mA	V _{DS} = 15 V, V _{GS} = 0	
12		r _{ds(on)}	Drain-Source ON Resistance		150	Ω	I _D = 0, V _{GS} = 0	f = 1 kHz
13		C _{iss}	Common-Source Input Capacitance		5.0	pF	V _{DS} = 15 V, V _{GS} = 0	f = 1 MHz
14		C _{rss}	Common-Source Reverse Transfer Capacitance		1.2		V _{DS} = 0, V _{GS} = -10 V	
15	T H	t _{d(on)}	Turn ON Delay Time		5	ns	V _{DD} = 10 V, I _{D(on)} = 7 mA, R _L = 1.21K Ω V _{GS(on)} = 0, V _{GS(off)} = -10 V	
16		t _r	Rise Time		5			
17		t _{d(off)}	Turn OFF Delay Time		15			
18		t _f	Fall Time		10			

*JEDEC registered data

NH



n-channel JFET designed for . . .

- VHF/UHF Amplifiers
- Oscillators
- Mixers
- Low Input Capacitance High Speed Switch



BENEFITS:

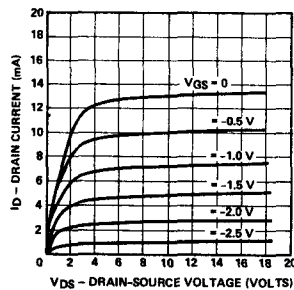
- Low Noise
NF = 3 dB Typical @ 400 MHz
- Wideband
High g_{fs}/C_{iss} Ratio

TYPE	PACKAGE
Single	TO-72
Single	TO-92
Single	TO-92 Lead-form
Single	Chip

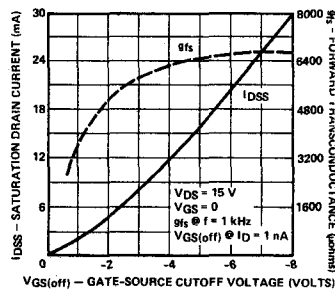
PRINCIPAL DEVICES
2N3966, 2N4416-16A
2N5484-6, 2N5555, 2N5668-70, MPF102, MPF108, MPF112, PN4416, J304-5, U1837, U1994
KK4416-18, K304-18, KK305-18, K1837-18
All of the above devices

PERFORMANCE CURVES (25°C unless otherwise noted)

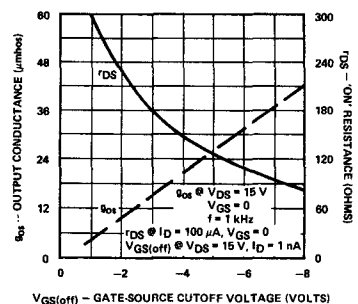
Output Characteristic



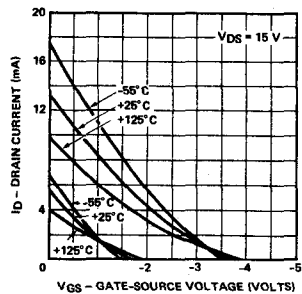
Drain Current & Transconductance vs Gate-Source Voltage



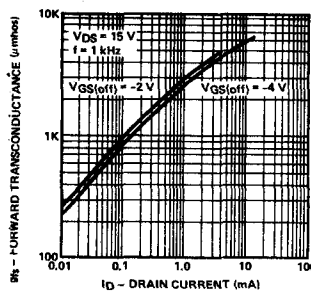
'ON' Resistance & Output Conductance vs Gate-Source Cutoff Voltage



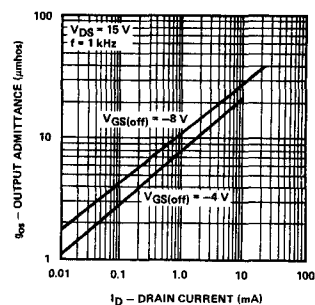
Transfer Characteristics



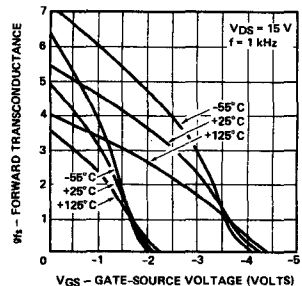
Common-Source Forward Transconductance vs Drain Current



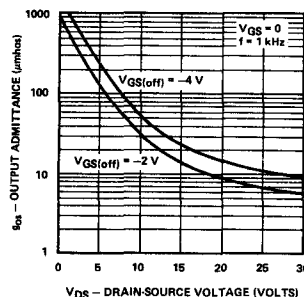
Common-Source Output Conductance vs Drain Current



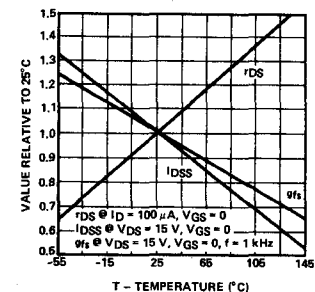
Transconductance Characteristics



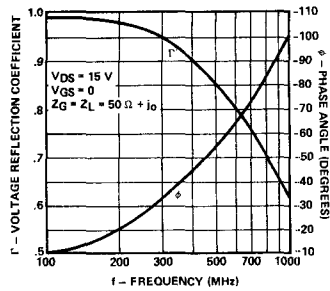
Common-Source Output Conductance vs Drain-Source Voltage



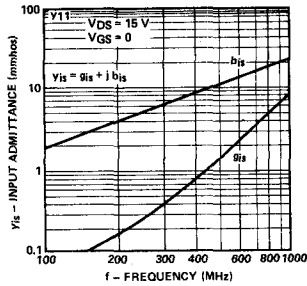
Drain Current, Transconductance and 'ON' Resistance vs Ambient Temperature



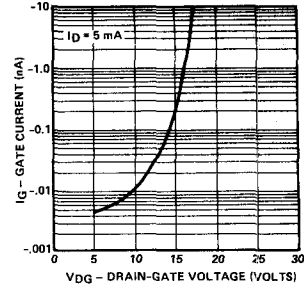
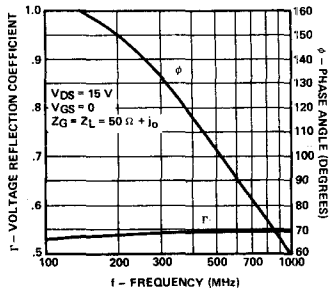
PERFORMANCE CURVES (Cont'd) (25°C unless otherwise noted)

S Parameters S_{11} Common-Source vs Frequency

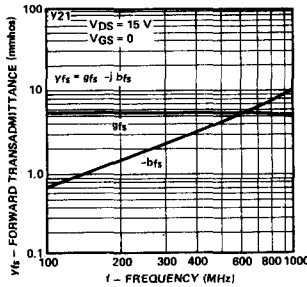
Common-Source Input Admittance vs Frequency



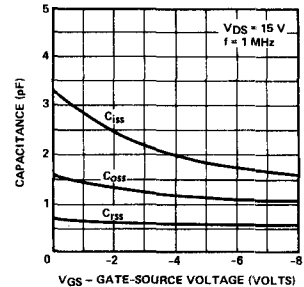
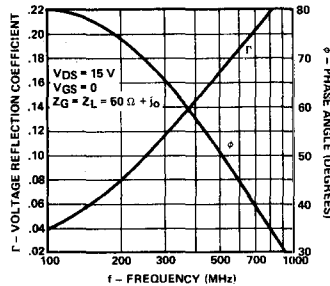
Gate Operating Current vs Drain-Gate Voltage

S Parameters S_{21} Common-Source vs Frequency

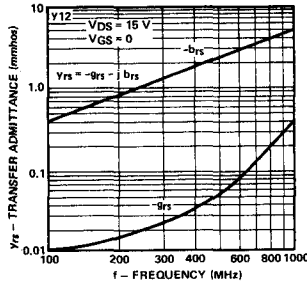
Common-Source Forward Transadmittance vs Frequency



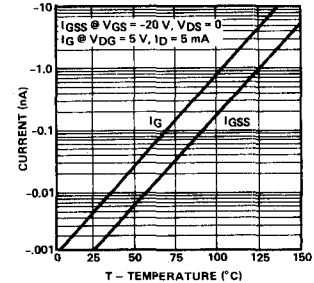
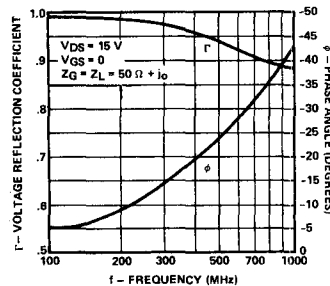
Common-Source Capacitances vs Gate-Source Voltage

S Parameters S_{12} Common-Source vs Frequency

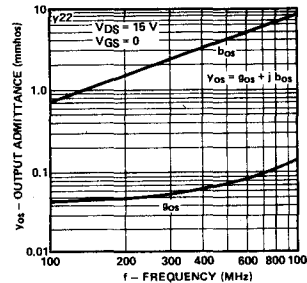
Common-Source Reverse Transfer Admittance vs Frequency



Gate Current vs Ambient Temperature

S Parameters S_{22} Common-Source vs Frequency

Common-Source Output Admittance vs Frequency



Equivalent Input Noise Voltage vs Frequency

