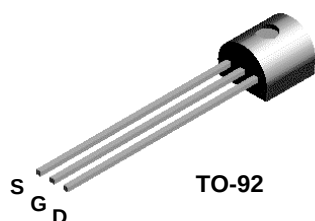


BF244A BF244B BF244C



N-Channel RF Amplifier

This device is designed for RF amplifier and mixer applications operating up to 450 MHz, and for analog switching requiring low capacitance. Sourced from Process 50.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{DG}	Drain-Gate Voltage	30	V
V _{GS}	Gate-Source Voltage	- 30	V
I _D	Drain Current	50	mA
I _{GF}	Forward Gate Current	10	mA
T _{stg}	Storage Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BF244A / BF244B / BF244C	
P _D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
R _{θJC}	Thermal Resistance, Junction to Case	125	°C/W
R _{θJA}	Thermal Resistance, Junction to Ambient	357	°C/W

N-Channel RF Amplifier

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
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OFF CHARACTERISTICS

V _{(BR)GSS}	Gate-Source Breakdown Voltage	I _G = 1.0 μ A, V _{DS} = 0	30			V
I _{GSS}	Gate Reverse Current	V _{GS} = -20 V, V _{DS} = 0			5.0	nA
V _{GSS(off)}	Gate-Source Cutoff Voltage	V _{DS} = 15 V, I _D = 10 nA	-0.5		-8.0	V
V _{GS}	Gate-Source Voltage	V _{DS} = 15 V, I _D = 200 μ A				
		244A	-0.4		-2.2	V
		244B	-1.6		-3.8	V
		244C	-3.2		-7.5	V

ON CHARACTERISTICS

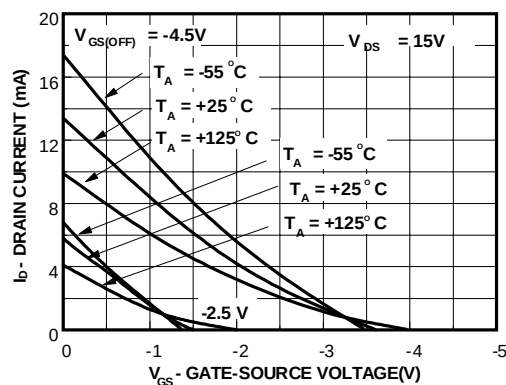
I _{DSS}	Zero-Gate Voltage Drain Current	V _{DS} = 15 V, V _{GS} = 0				
		244A	2.0		6.5	mA
		244B	6.0		15	mA
		244C	12		25	mA

SMALL SIGNAL CHARACTERISTICS

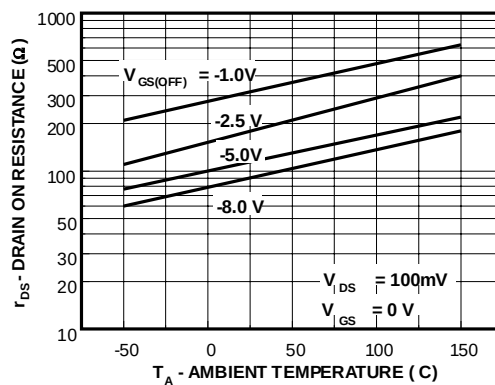
y _{fs}	Forward Transfer Admittance	V _{DS} = 15 V, V _{GS} = 0, f = 1.0 kHz V _{DS} = 15 V, V _{GS} = 0, f = 200 MHz	3.0	5.6	6.5	mmhos mmhos
y _{os}	Output Admittance	V _{DS} = 15 V, V _{GS} = 0, f = 1.0 kHz		40		μ mhos
y _{rs}	Reverse Transfer Admittance	V _{DS} = 15 V, V _{GS} = 0, f = 200 MHz		1.0		μ mhos
C _{iss}	Input Capacitance	V _{DS} = 20 V, V _{GS} = -1.0 V		3.0		pF
C _{rss}	Reverse Transfer Capacitance	V _{DS} = 20 V, V _{GS} = -1.0 V, f = 1.0 MHz		0.7		pF
C _{oss}	Output Capacitance	V _{DS} = 20 V, V _{GS} = -1.0 V, f = 1.0 MHz		0.9		pF
NF	Noise Figure	V _{DS} = 15 V, V _{GS} = 0, R _G = 1.0 k Ω , f = 100 MHz		1.5		dB
F(y _{fs})	Cut-Off Frequency	V _{DS} = 15 V, V _{GS} = 0		700		MHz

Typical Characteristics

Transfer Characteristics



Channel Resistance vs Temperature

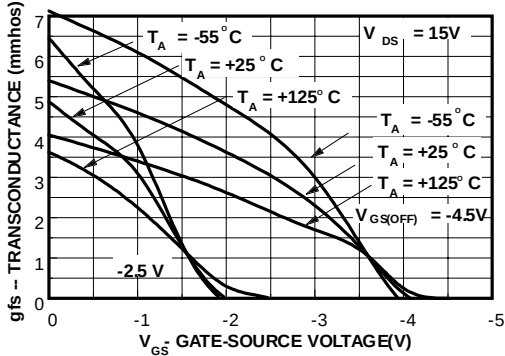


BF244A / BF244B / BF244C

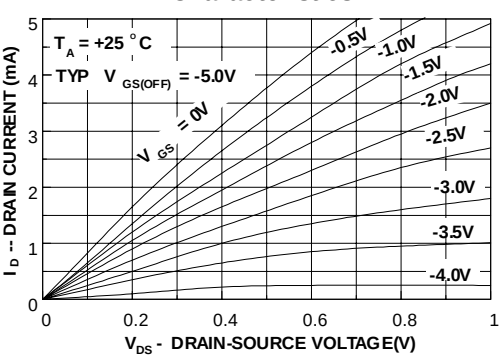
N-Channel RF Amplifier
(continued)

Typical Characteristics (continued)

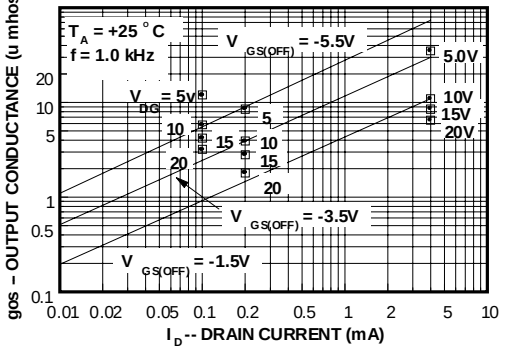
Transconductance Characteristics



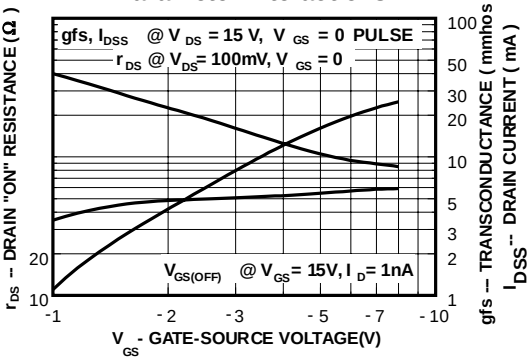
Common Drain-Source Characteristics



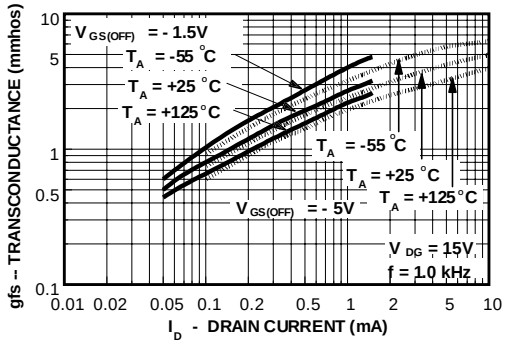
Output Conductance vs Drain Current



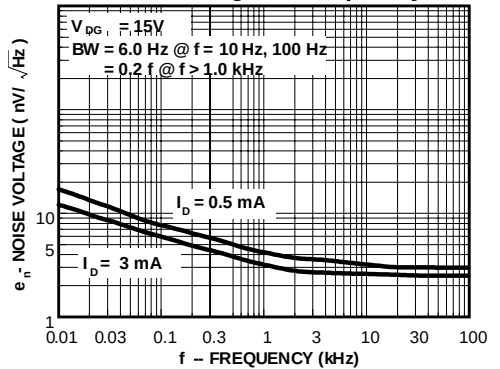
Transconductance Parameter Interactions



Transconductance vs Drain Current

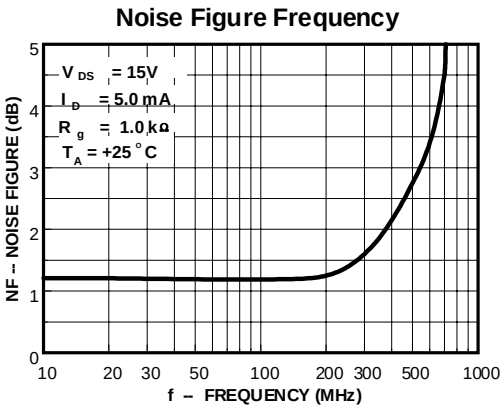
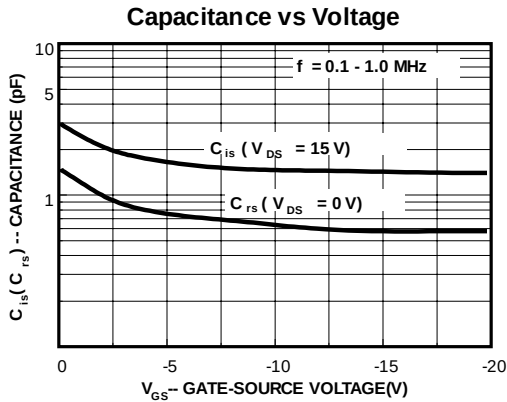


Noise Voltage vs Frequency

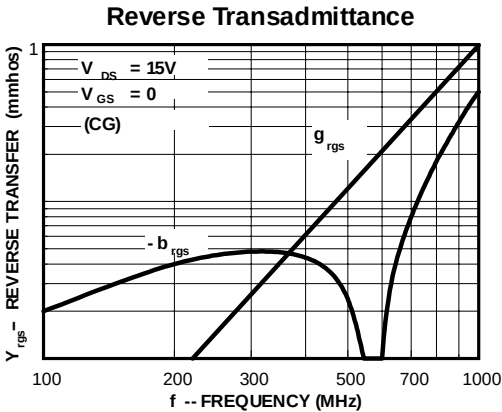
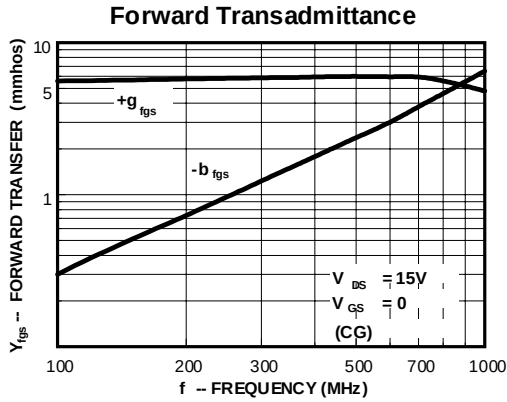
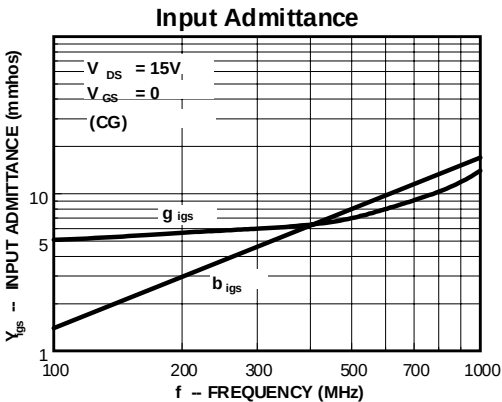
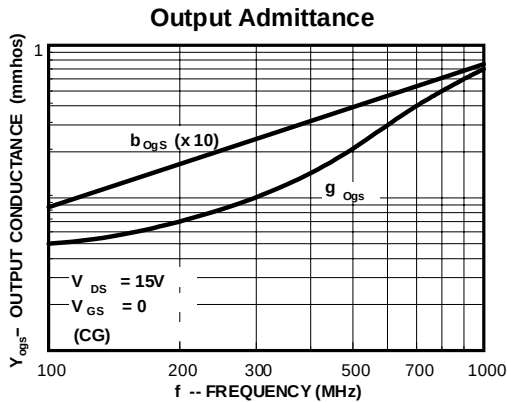


N-Channel RF Amplifier
(continued)

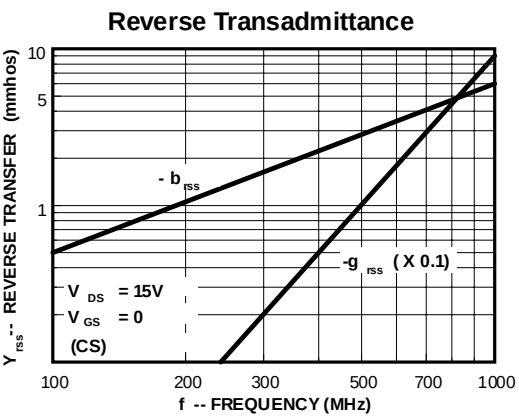
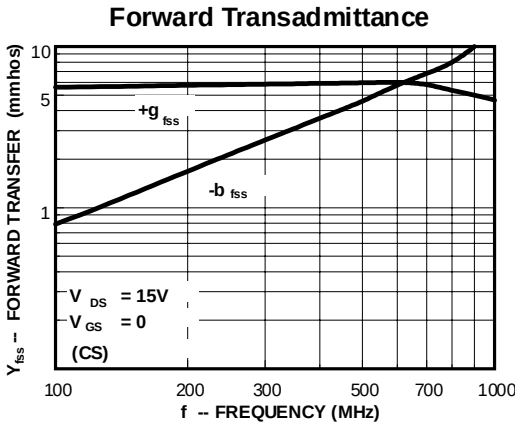
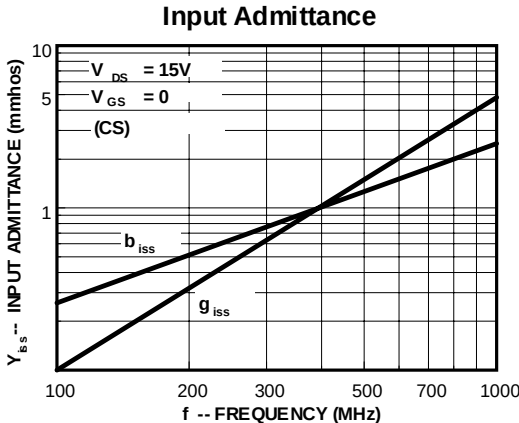
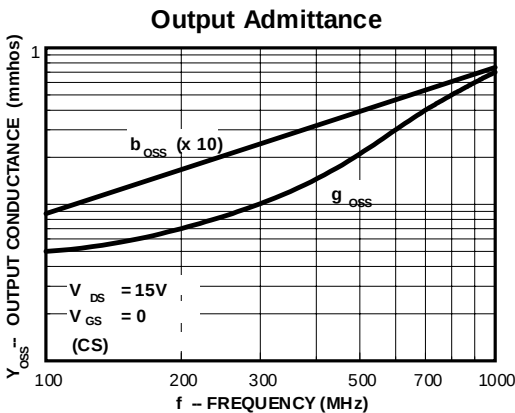
Typical Characteristics (continued)



Common Gate Characteristics



Common Source Characteristics



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