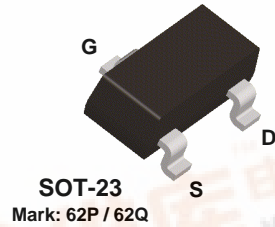




Discrete POWER & Signal Technologies

J201  
J202

MMBFJ201  
MMBFJ202



### N-Channel General Purpose Amplifier

This device is designed primarily for low level audio and general purpose applications with high impedance signal sources. Sourced from Process 52.

#### Absolute Maximum Ratings\*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>DG</sub>	Drain-Gate Voltage	40	V
V <sub>GS</sub>	Gate-Source Voltage	- 40	V
I <sub>GF</sub>	Forward Gate Current	50	mA
T <sub>J</sub> , T <sub>stg</sub>	Operating and Storage Junction 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
		J201 / J202	*MMBFJ201	
P <sub>d</sub>	Total Device Dissipation	625	350	mW
	Derate above 25°C	5.0	2.8	mW/°C
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	83.3		°C/W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	200	357	°C/W

\*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."



## N-Channel General Purpose Amplifier

(continued)

### Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
<b>OFF CHARACTERISTICS</b>					
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = -1.0 \mu A, V_{DS} = 0$	-40		V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = -20 V, V_{DS} = 0$		-100	pA
$V_{GS(OFF)}$	Gate-Source Cutoff Voltage	$V_{DS} = 20 V, I_D = 10 nA$	<b>J201</b> -0.3	-1.5	V
			<b>J202</b> -0.8	-4.0	V

### ON CHARACTERISTICS

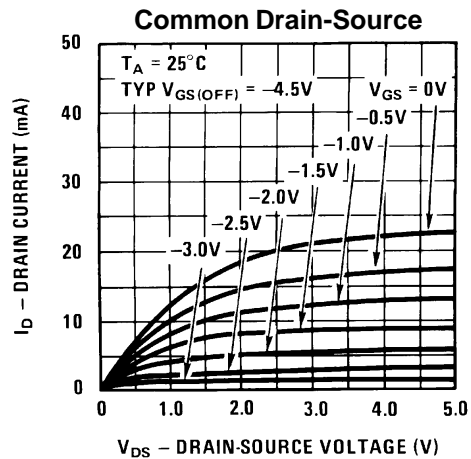
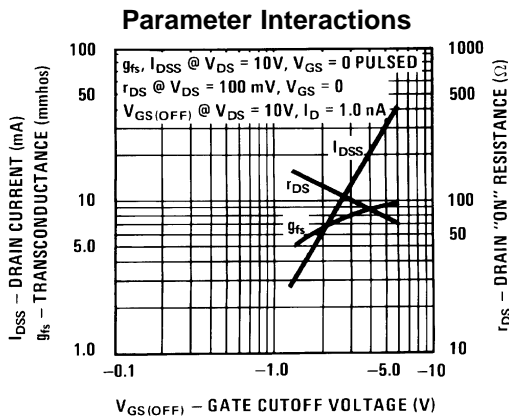
$I_{DSS}$	Zero-Gate Voltage Drain Current*	$V_{DS} = 20 V, I_{GS} = 0$	<b>J201</b> 0.2	1.0	mA
			<b>J202</b> 0.9	4.5	mA

### SMALL SIGNAL CHARACTERISTICS

$y_{fs}$	Forward Transfer Admittance	$V_{DS} = 20, f = 1.0 kHz$	<b>J201</b> 500		$\mu mhos$
			<b>J202</b> 1000		$\mu mhos$

\*Pulse Test: Pulse Width  $\leq 300 \mu s$

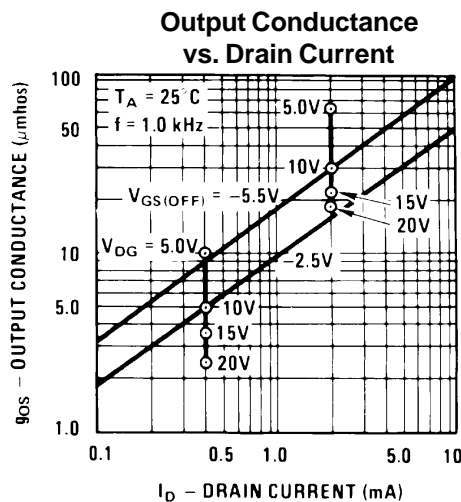
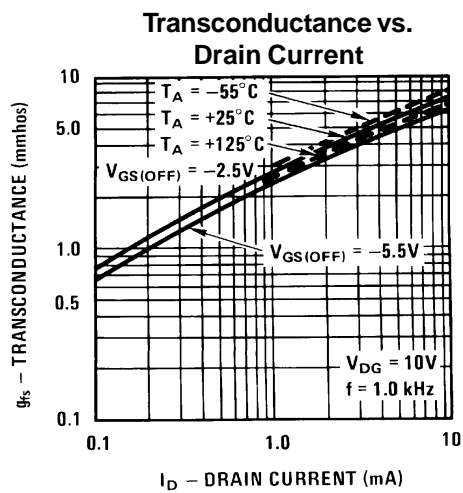
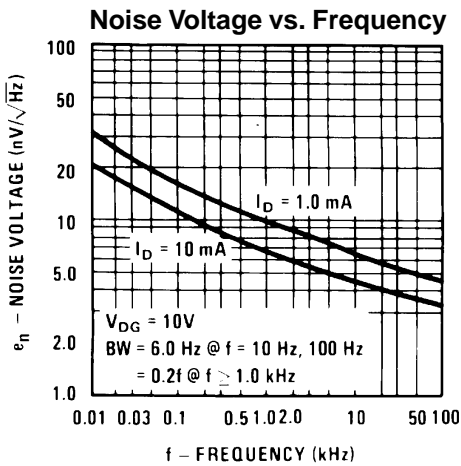
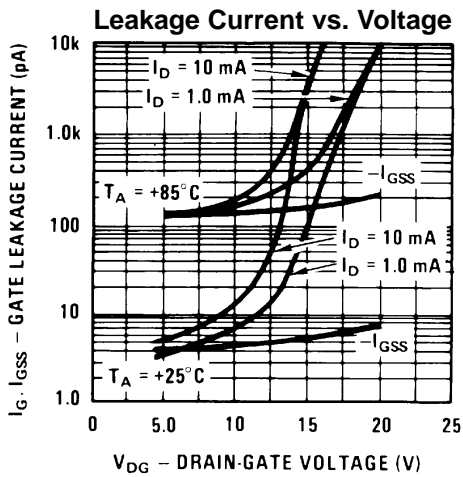
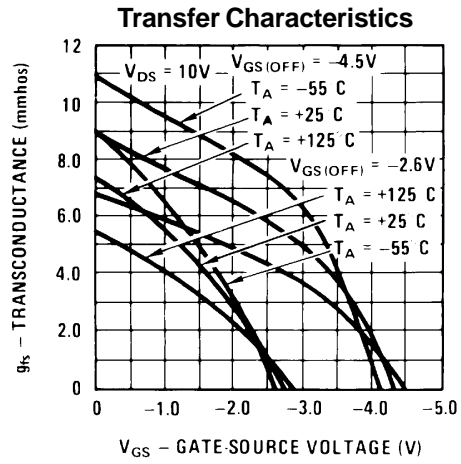
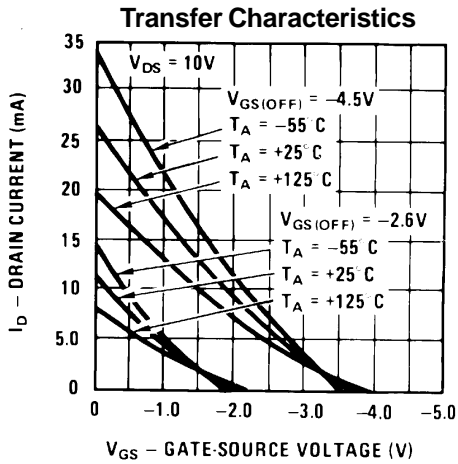
### Typical Characteristics



# N-Channel General Purpose Amplifier

(continued)

## Typical Characteristics (continued)

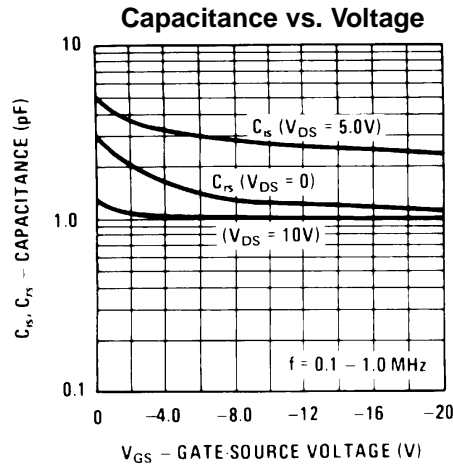


J201 / J202 / MMBFJ201 / MMBFJ202

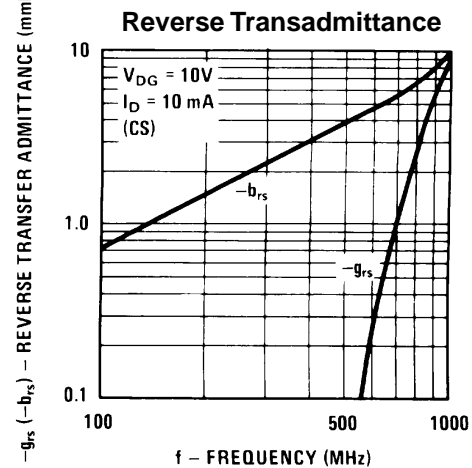
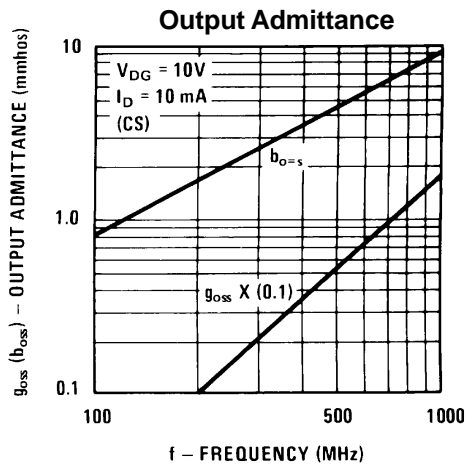
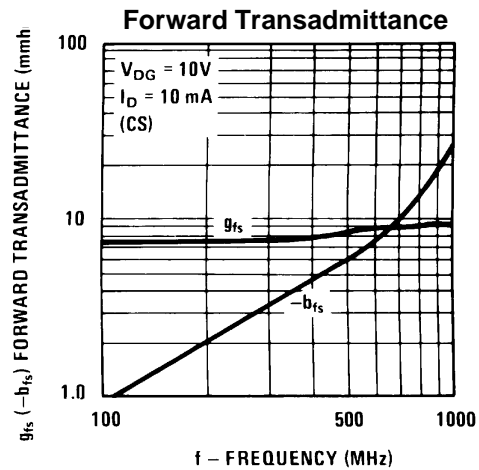
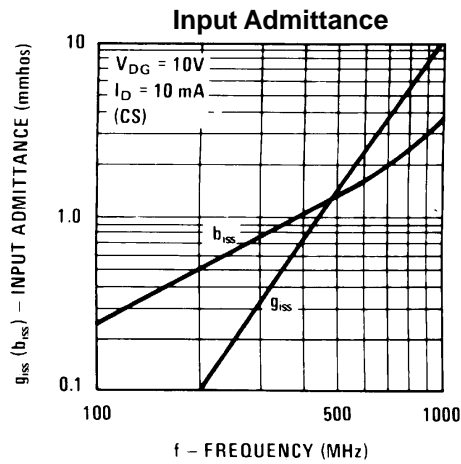
# N-Channel General Purpose Amplifier

(continued)

## Typical Characteristics (continued)



## Common Source Characteristics

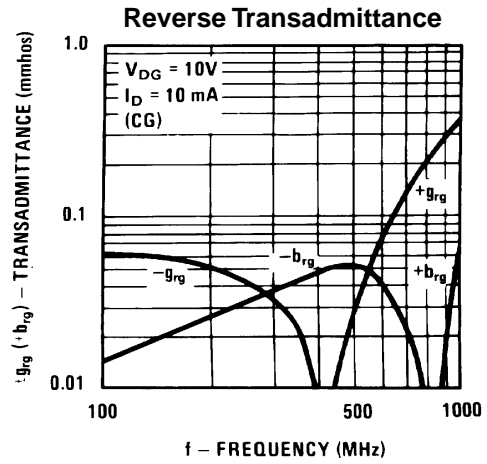
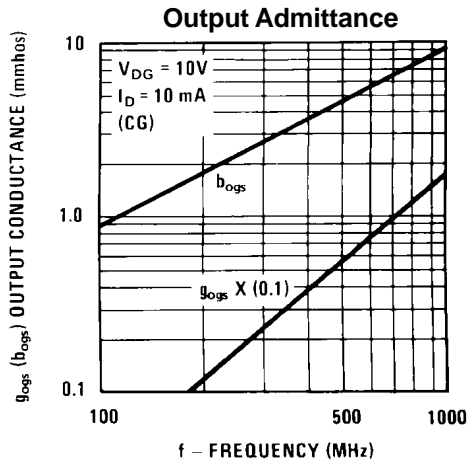
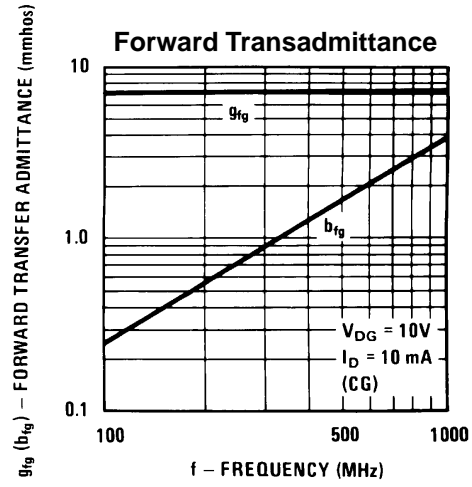
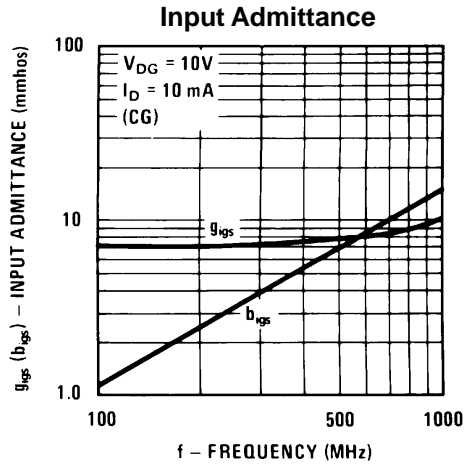


J201 / J202 / MMBFJ201 / MMBFJ202

# N-Channel General Purpose Amplifier

(continued)

## Common Gate Characteristics



J201 / J202 / MMBFJ201 / MMBFJ202

**N-Channel General Purpose Amplifier**  
(continued)

**J201 / J202 / MMBFJ201 / MMBFJ202**