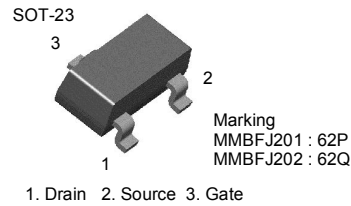
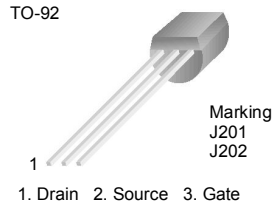


# J201 - J202 / MMBFJ201 - MMBFJ203 N-Channel General Purpose Amplifier

- 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 \* T<sub>a</sub>=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 ~ 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°C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

## Thermal Characteristics\* T<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Value		Units
		J201 - J202	MMBFJ201 - MMBFJ203	
P <sub>D</sub>	Total Device Dissipation	625	350	W
	Derate above 25°C	5.0	2.8	mW/°C
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	125		°C/W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	357	556	°C/W

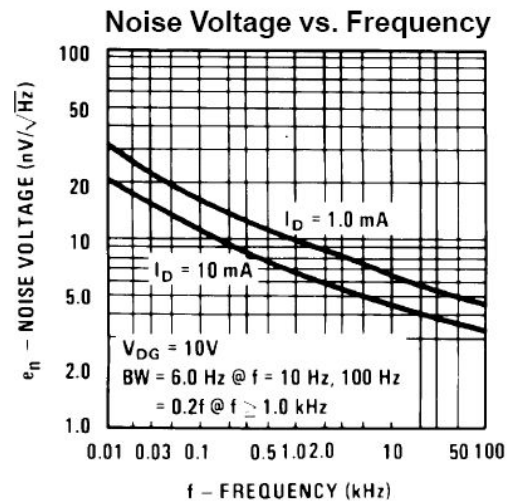
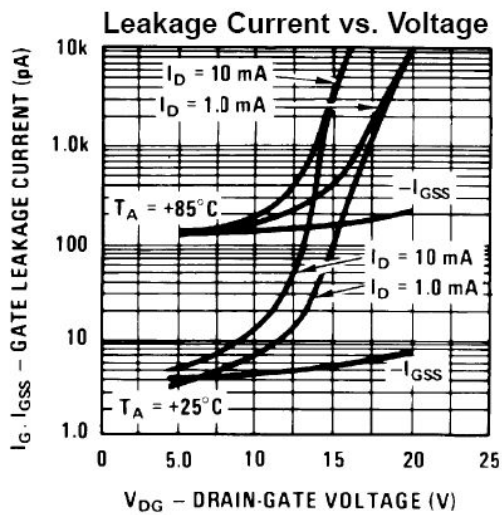
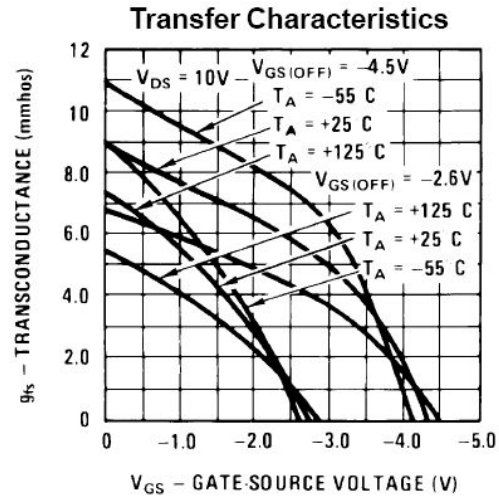
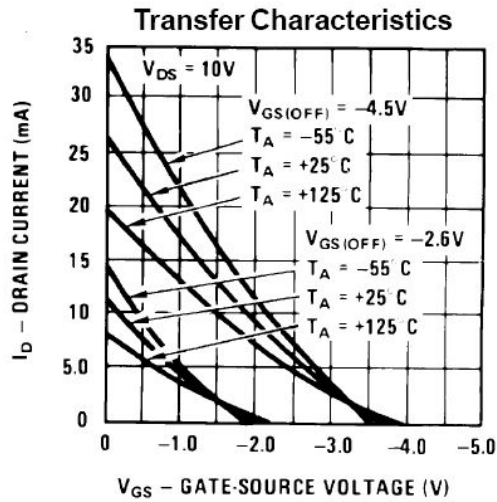
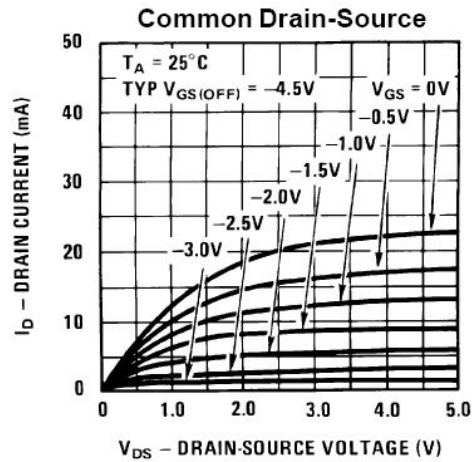
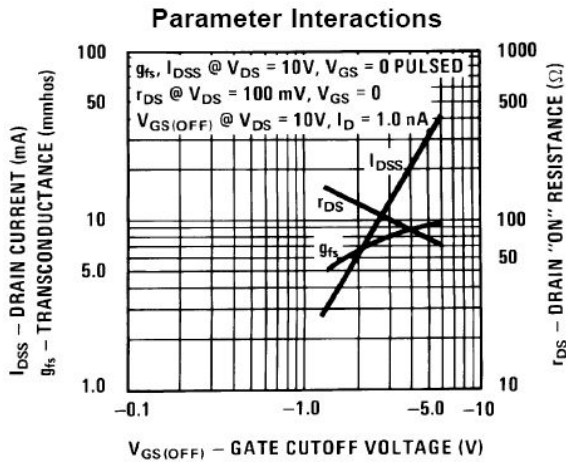
\* Device mounted on FR-4 PCB 1.6" x 1.6" x 0.06"

**Electrical Characteristics \***  $T_C = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units	
<b>Off Characteristics</b>						
$V_{(BR)GSS}$	Gate-Source Breakdwon Voltage	$I_G = -1\mu\text{A}, V_{DS} = 0$	-40		V	
$I_{GSS}$	Gate Reverse Current	$V_{GS} = -20\text{V}, V_{DS} = 0$		-100	pA	
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 20\text{V}, I_D = 10\text{nA}$	201 202 203	-0.3 -0.8 -2	-1.5 -4 -10	V
<b>On Characteristics</b>						
$I_{DSS}$	Zero-Gate Voltage Drain Current *	$V_{DS} = 20\text{V}, I_{GS} = 0$	201 202 203	0.2 0.9 4	1.0 4.5 20	mA
<b>Small Signal Characteristics</b>						
$Y_{Fs}$	Forward Transfer Admittance	$V_{DS} = 20\text{V}, f = 1.0\text{kHz}$	201 202 203	500 1000 1500		$\mu\text{mhos}$

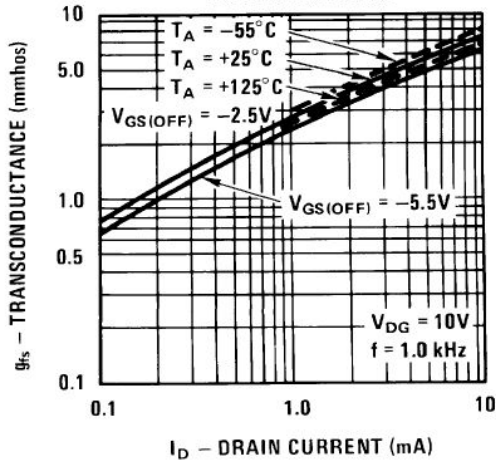
\* Pulse Test: Pulse Width  $\leq 300\text{ms}$ , Duty Cycle  $\leq 2.0\%$

## Typical Characteristics

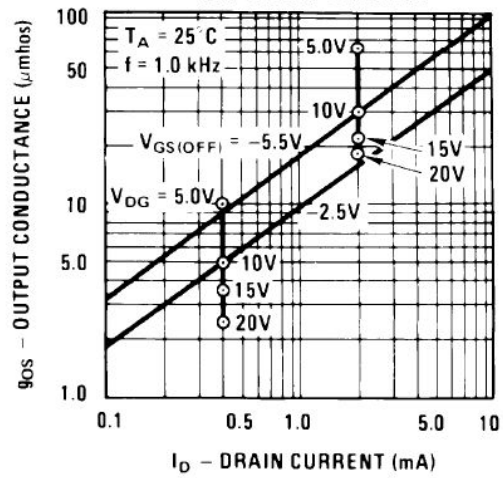


Typical Characteristics (Continued)

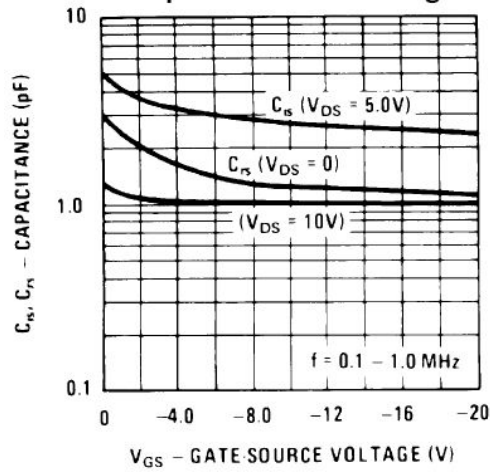
Transconductance vs. Drain Current



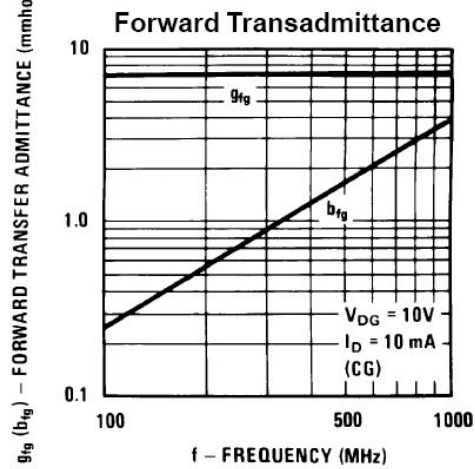
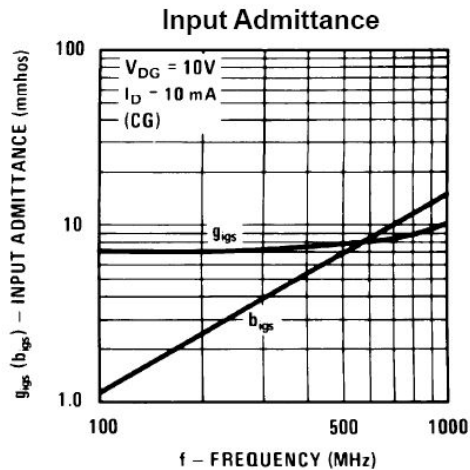
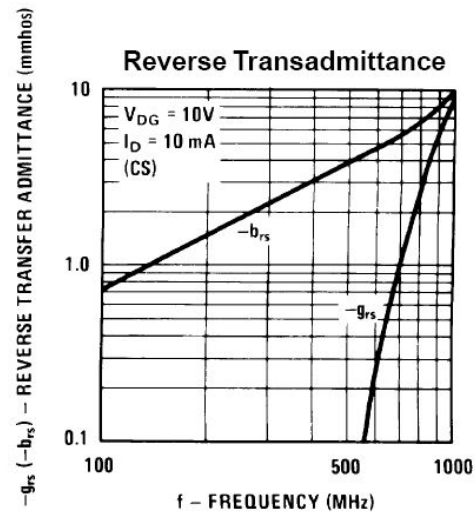
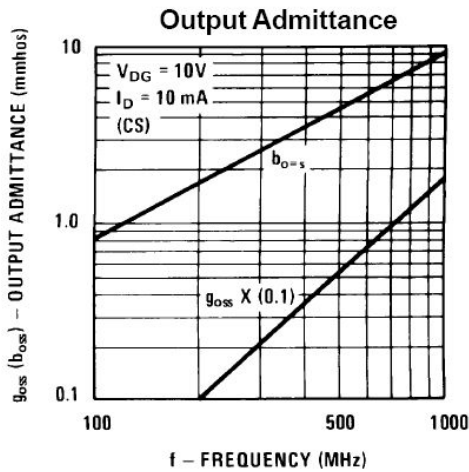
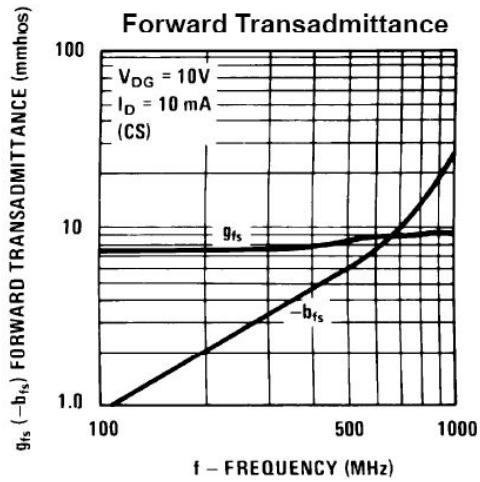
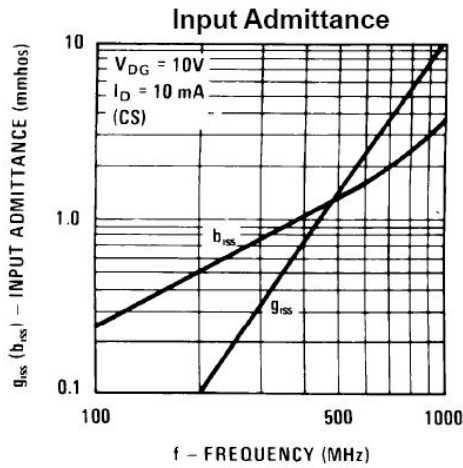
Output Conductance vs. Drain Current



Capacitance vs. Voltage

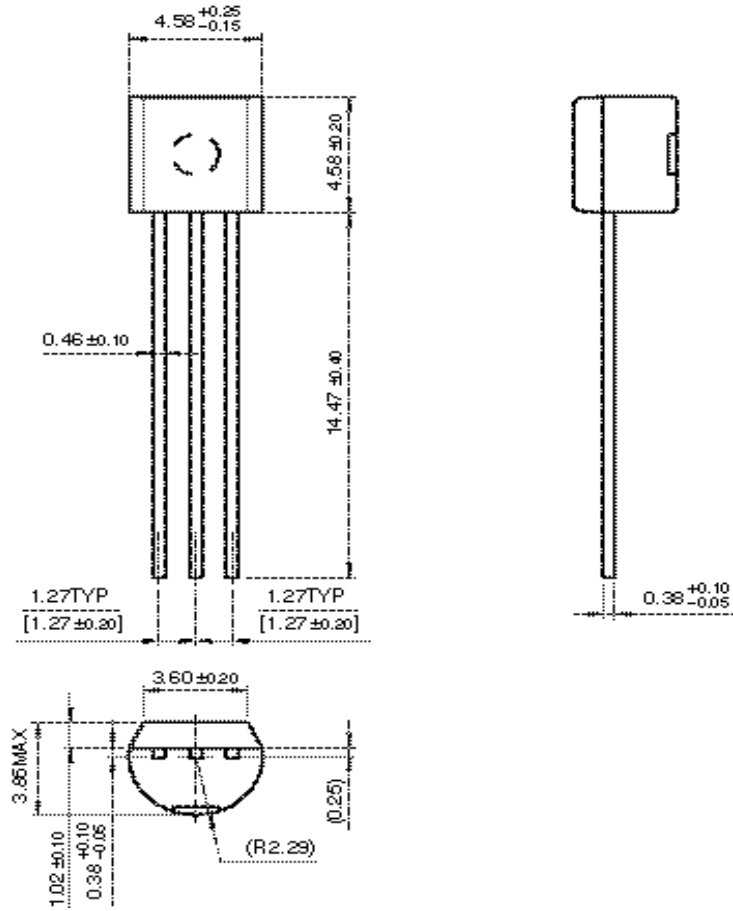


Typical Characteristics (Continued)



# Mechanical Dimensions

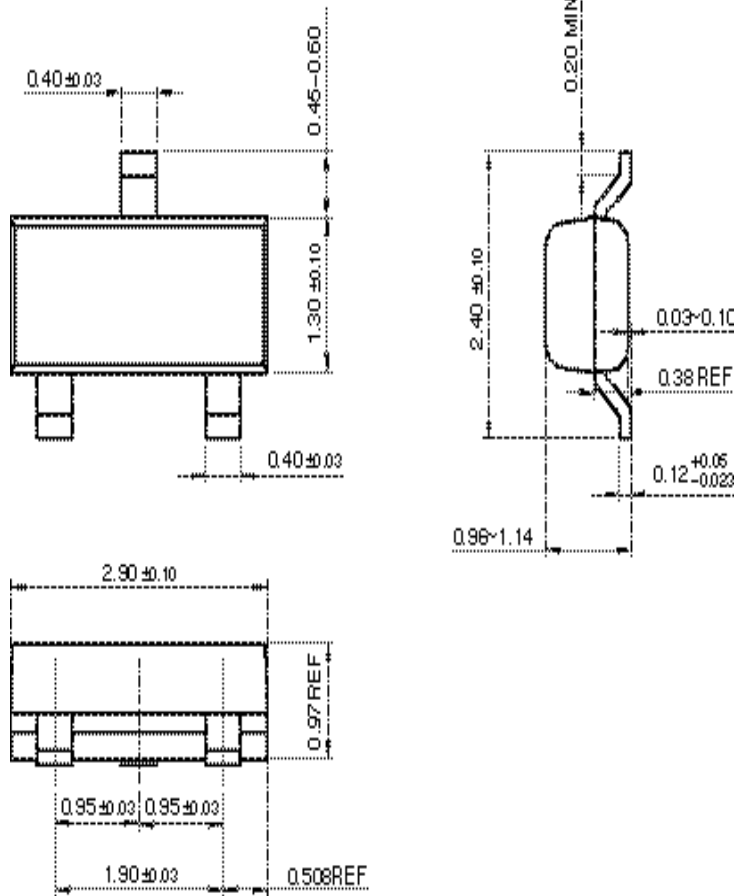
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J201 - J202 / MMBFJ201 - MMBFJ203 — N-Channel General Purpose Amplifier

### Mechanical Dimensions

## SOT-23




Dimensions in Millimeters





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