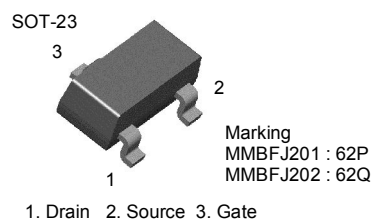
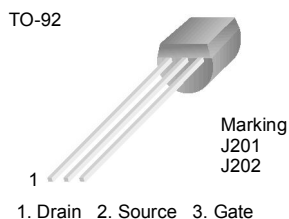


J201 - J202 / MMBFJ201 - MMBFJ203

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 * $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	40	V
V_{GS}	Gate-Source Voltage	-40	V
I_{GF}	Forward Gate Current	50	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ 150	$^\circ\text{C}$

* 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* $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value		Units
		J201 - J202	MMBFJ201 - MMBFJ203	
P_D	Total Device Dissipation Derate above 25°C	625 5.0	350 2.8	W mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125		$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	556	$^\circ\text{C/W}$

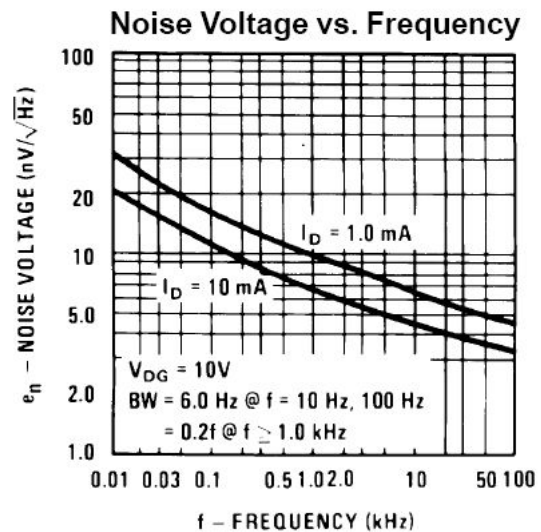
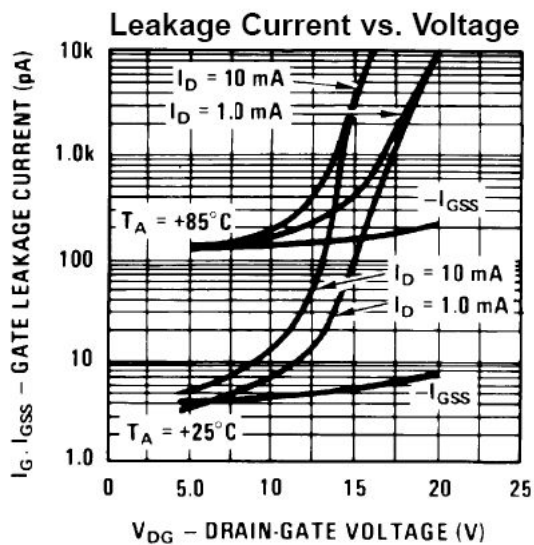
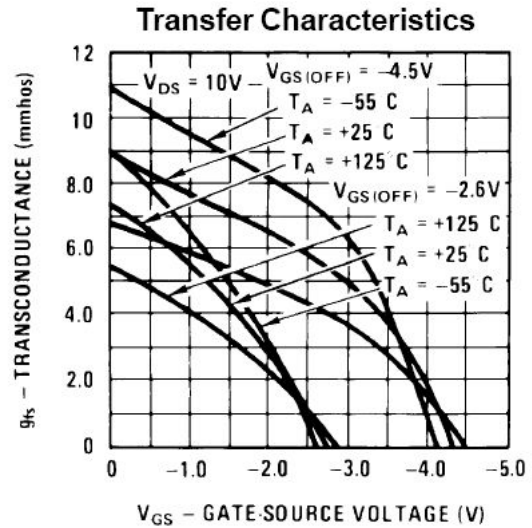
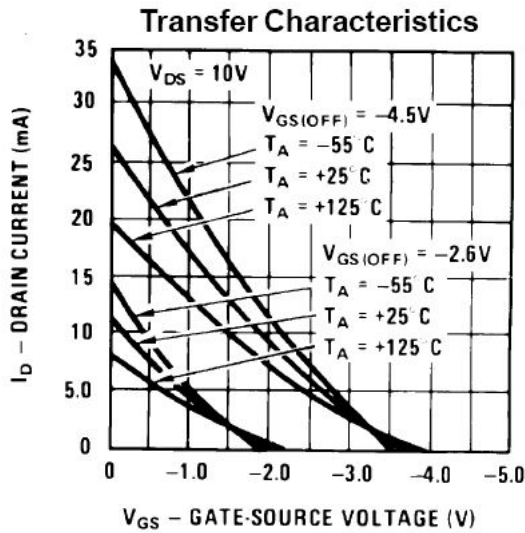
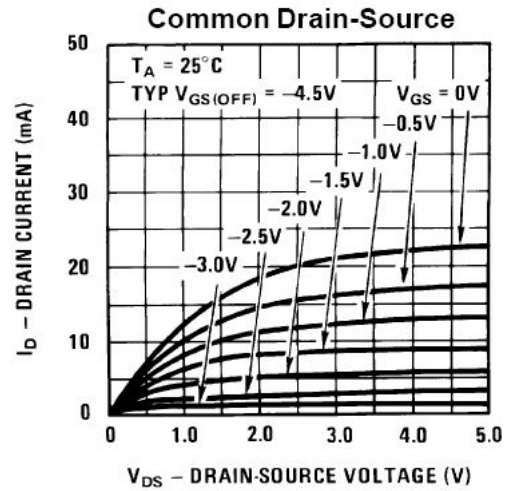
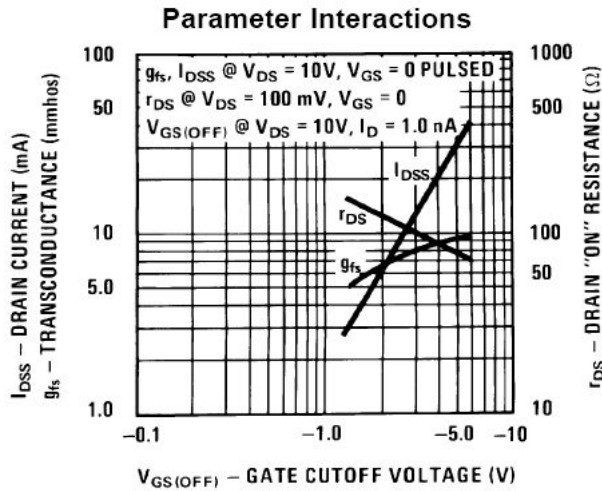
* Device mounted on FR-4 PCB $1.6'' \times 1.6'' \times 0.06''$

Electrical Characteristics * T_C = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
Off Characteristics					
V _{(BR)GSS}	Gate-Source Breakdwon Voltage	I _G = -1μA, V _{DS} = 0	-40		V
I _{GSS}	Gate Reverse Current	V _{GS} = -20V, V _{DS} = 0		-100	pA
V _{GS(off)}	Gate-Source Cutoff Voltage	V _{DS} = 20V, I _D = 10nA 201 202 203	-0.3 -0.8 -2	-1.5 -4 -10	V
On Characteristics					
I _{DSS}	Zero-Gate Voltage Drain Current *	V _{DS} = 20V, I _{GS} = 0 201 202 203	0.2 0.9 4	1.0 4.5 20	mA
Small Signal Characteristics					
y _{FS}	Forward Transfer Admittance	V _{DS} = 20V, f = 1.0kHz 201 202 203	500 1000 1500		μmhos

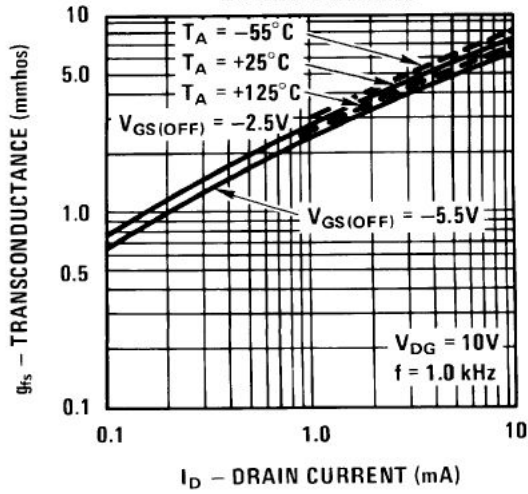
* Pulse Test: Pulse Width ≤ 300ms, Duty Cycle ≤ 2.0%

Typical Characteristics

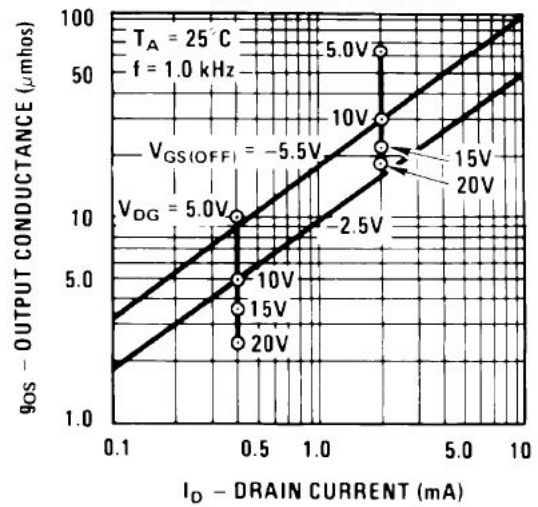


Typical Characteristics (Continued)

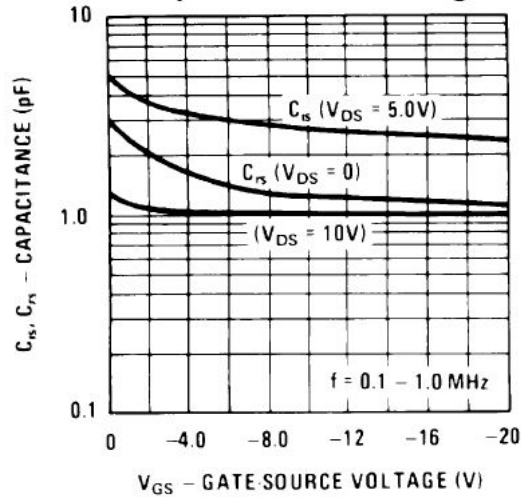
Transconductance vs. Drain Current



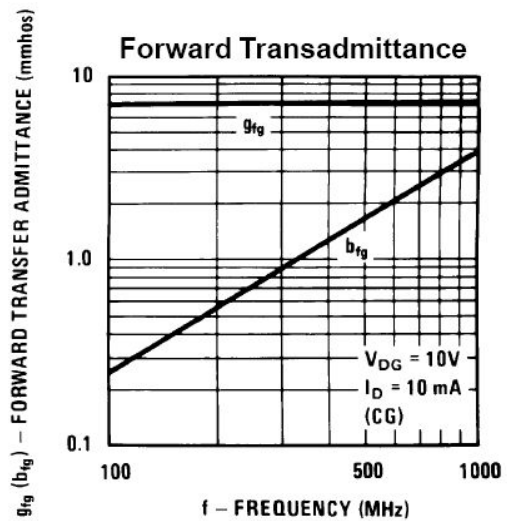
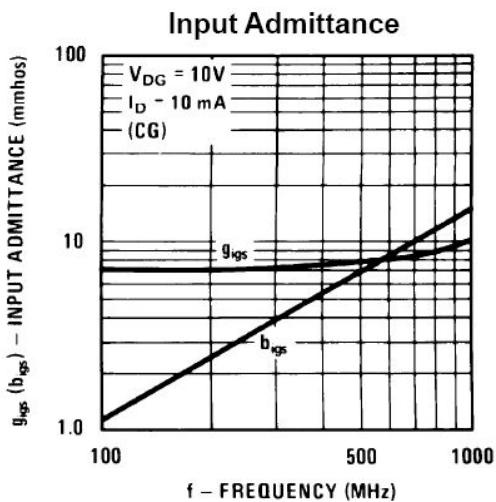
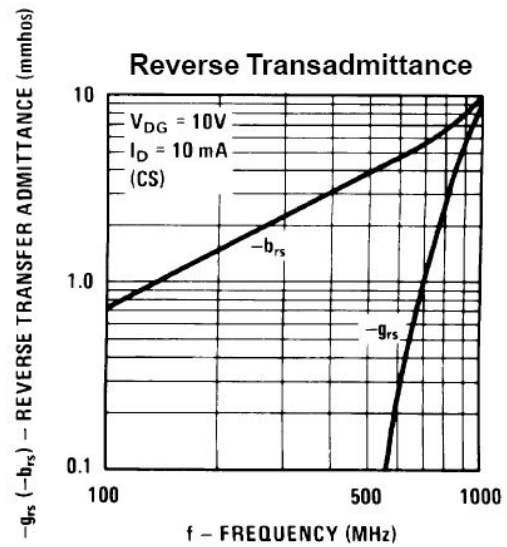
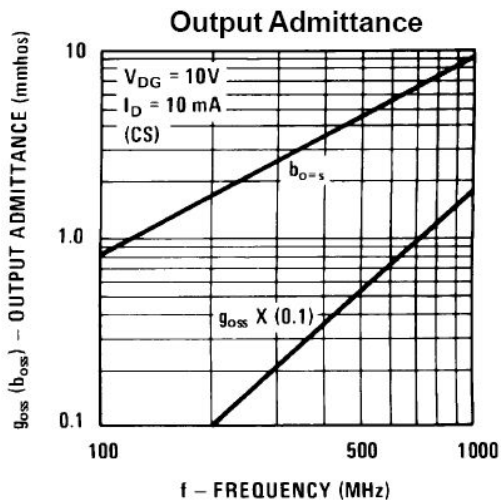
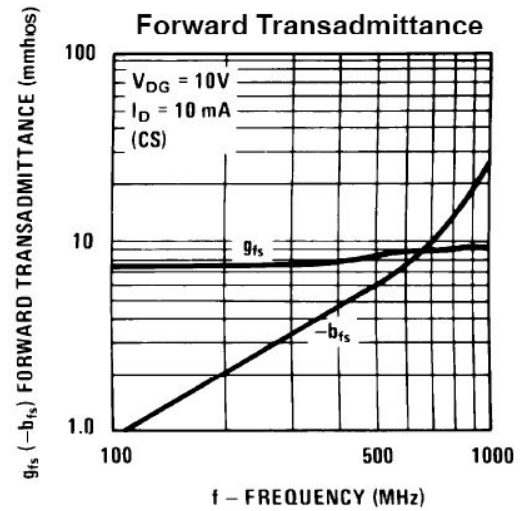
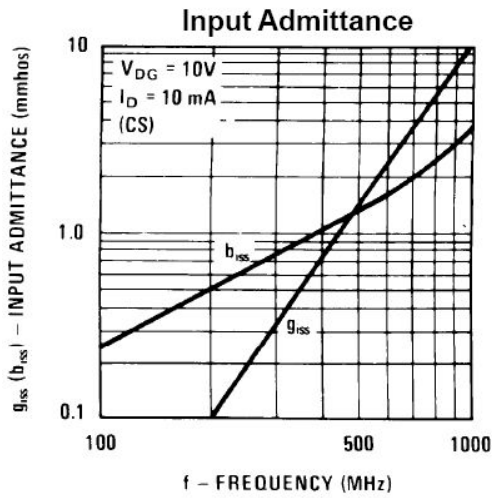
Output Conductance vs. Drain Current



Capacitance vs. Voltage

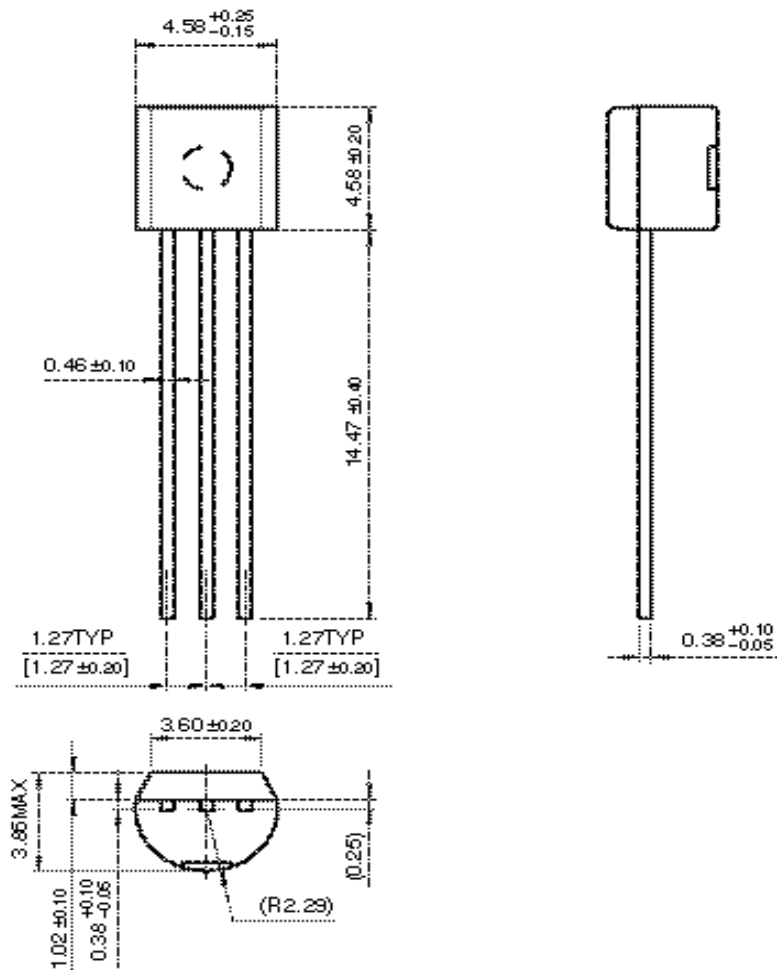


Typical Characteristics (Continued)



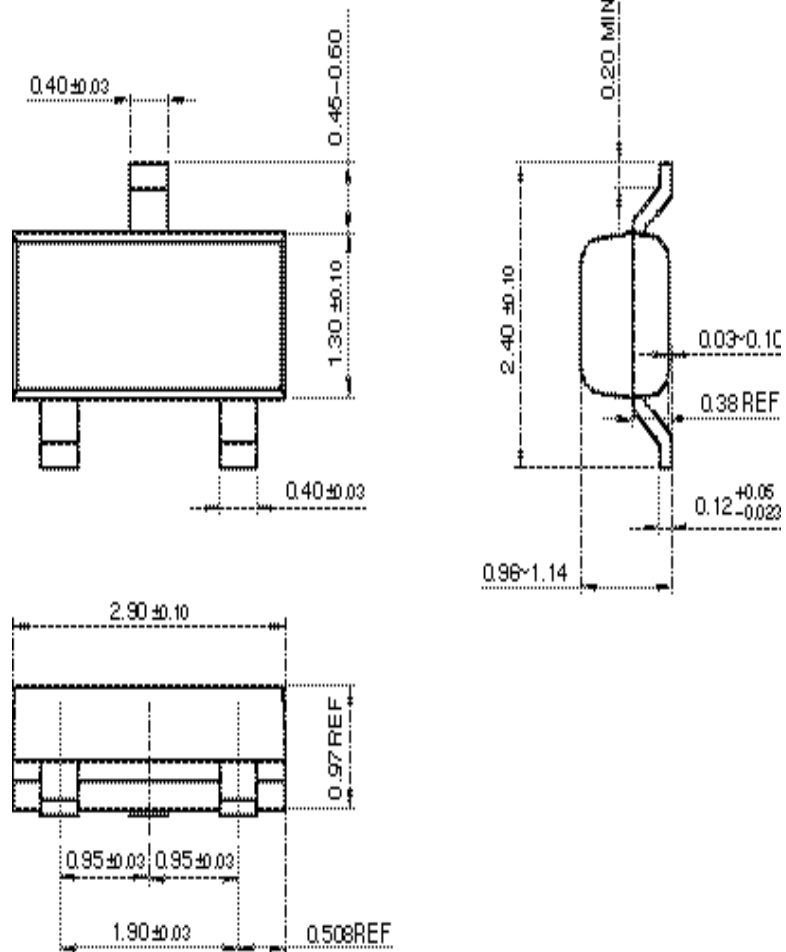
Mechanical Dimensions

TO-92



Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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