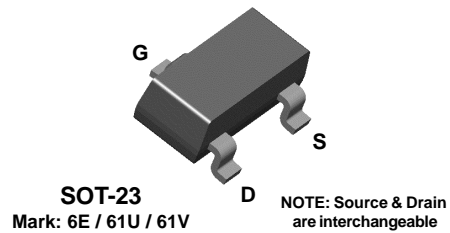
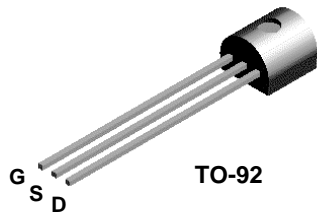


**2N5460
2N5461
2N5462**

**MMBF5460
MMBF5461
MMBF5462**



P-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 89.

Absolute Maximum Ratings* TA = 25°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	10	mA
T_J, T_{stg}	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
		2N5460-5462	*MMBF5460-5462	
P_D	Total Device Dissipation Derate above 25°C	350	225	mW
		2.8	1.8	mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125		°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	556	°C/W

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

2N5460 / 5461 / 5462 / MMBF5460 / MMBF5461 / MMBF5462

P-Channel General Purpose Amplifier

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = 10 \mu A, V_{DS} = 0$	40			V
I_{GSS}	Gate Reverse Current	$V_{GS} = 20 V, V_{DS} = 0$ $V_{GS} = 20 V, V_{DS} = 0, T_A = 100^\circ C$			5.0 1.0	nA μA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15 V, I_D = 1.0 \mu A$	0.75		6.0	V
		5460	1.0		7.5	V
		5461	1.8		9.0	V
		5462				
V_{GS}	Gate-Source Voltage	$V_{DS} = 15 V, I_D = 0.1 mA$	0.5		4.0	V
		$V_{DS} = 15 V, I_D = 0.2 mA$	0.8		4.5	V
		$V_{DS} = 15 V, I_D = 0.4 mA$	1.5		6.0	V

ON CHARACTERISTICS

I_{DSS}	Zero-Gate Voltage Drain Current*	$V_{DS} = 15 V, V_{GS} = 0$	5460 5461 5462	- 1.0 - 2.0 - 4.0		- 5.0 - 9.0 - 16	mA mA mA
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SMALL SIGNAL CHARACTERISTICS

g_{fs}	Forward Transfer Conductance	$V_{DS} = 15 V, V_{GS} = 0, f = 1.0 kHz$	5460 5461 5462	1000 1500 2000		4000 5000 6000	$\mu mhos$ $\mu mhos$ $\mu mhos$
g_{os}	Output Conductance	$V_{DS} = 15 V, V_{GS} = 0, f = 1.0 kHz$				75	$\mu mhos$
C_{iss}	Input Capacitance	$V_{DS} = 15 V, V_{GS} = 0, f = 1.0 MHz$			5.0	7.0	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 15 V, V_{GS} = 0, f = 1.0 MHz$			1.0	2.0	pF
NF	Noise Figure	$V_{DS} = 15 V, V_{GS} = 0,$ $R_G = 1.0 megohm, f = 100 Hz,$ $BW = 1.0 Hz$			1.0	2.5	dB
e_n	Equivalent Short-Circuit Input Noise Voltage	$V_{DS} = 15 V, V_{GS} = 0, f = 100 Hz,$ $BW = 1.0 Hz$			60	115	nV/\sqrt{Hz}

*Pulse Test: Pulse Width $\leq 300 ms$, Duty Cycle $\leq 2\%$

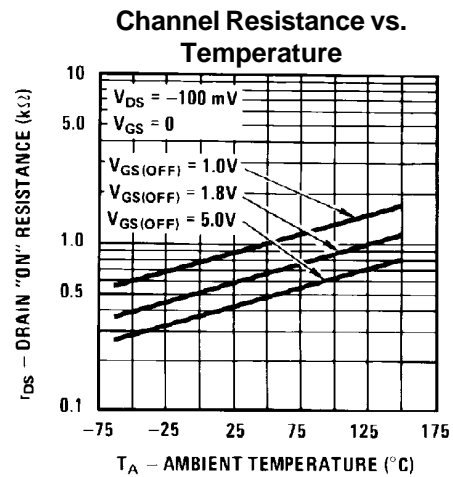
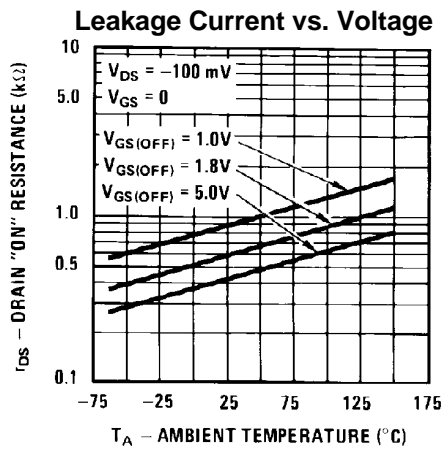
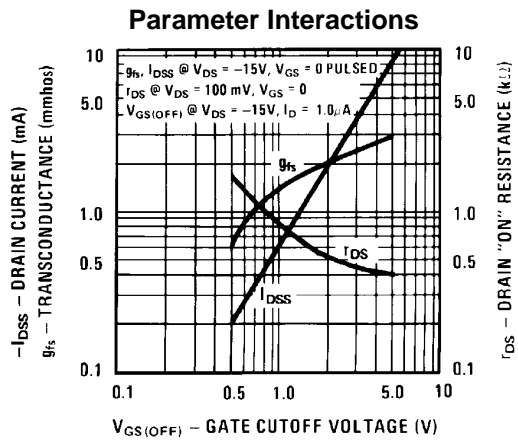
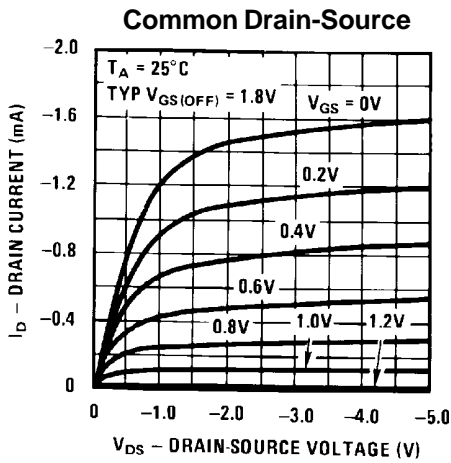
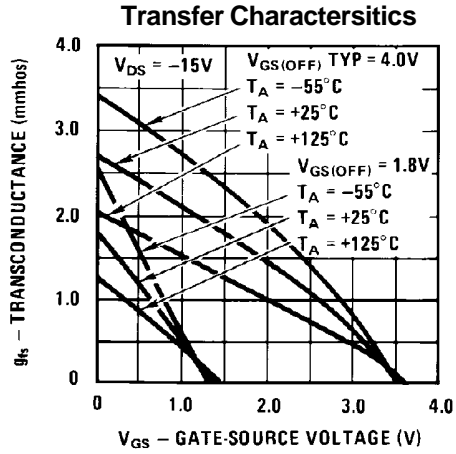
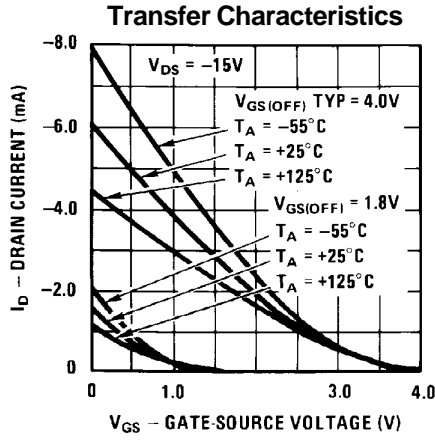
2N5460 / 5461 / 5462 / MMBF5460 / MMBF5461 / MMBF5462

P-Channel General Purpose Amplifier

(continued)

2N5460 / 5461 / 5462 / MMBF5460 / MMBF5461 / MMBF5462

Typical Characteristics (continued)



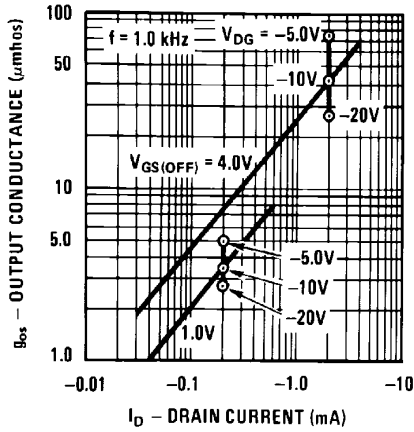
P-Channel General Purpose Amplifier

(continued)

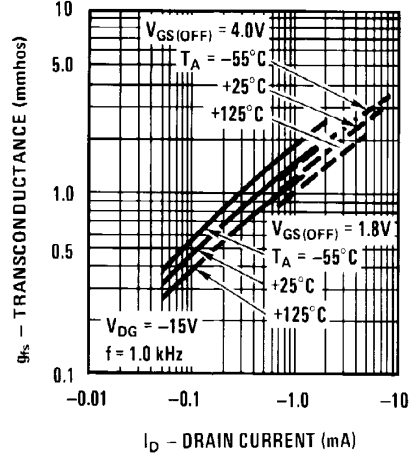
2N5460 / 5461 / 5462 / MMBF5460 / MMBF5461 / MMBF5462

Typical Characteristics (continued)

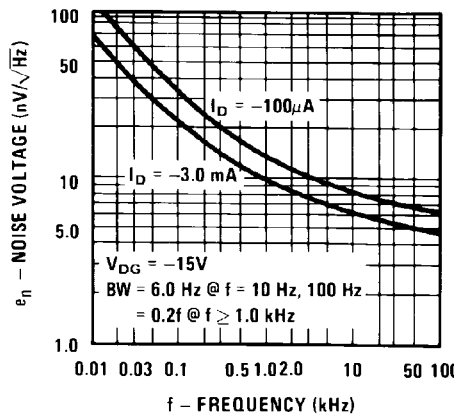
Output Conductance vs. Drain Current



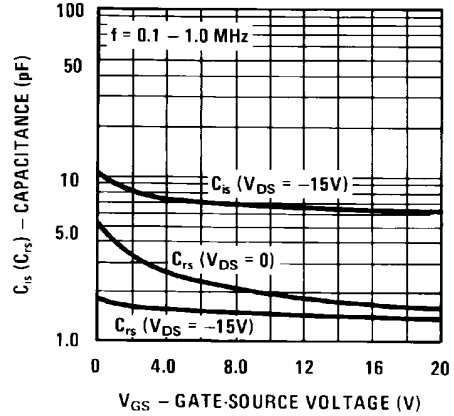
Transconductance vs. Drain Current



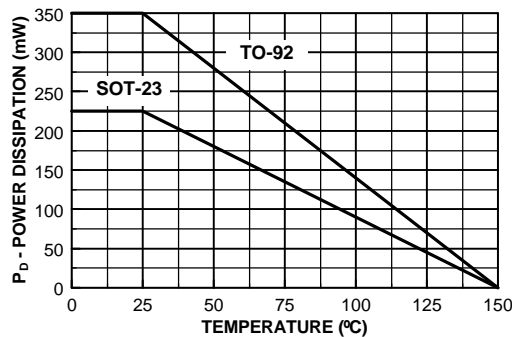
Noise Voltage vs. Frequency



Capacitance vs. Voltage



Power Dissipation vs. Ambient Temperature



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