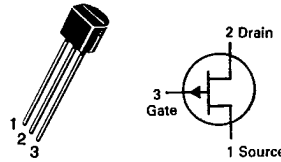


**2N5460  
thru  
2N5465**

CASE 29-04, STYLE 7  
TO-92 (TO-226AA)



**JFET  
AMPLIFIERS**  
P-CHANNEL — DEPLETION

**MAXIMUM RATINGS**

Rating	Symbol	2N5460 2N5461 2N5462	2N5463 2N5464 2N5465	Unit
Drain-Gate Voltage	V <sub>DG</sub>	40	60	Vdc
Reverse Gate-Source Voltage	V <sub>GSR</sub>	40	60	Vdc
Forward Gate Current	I <sub>G(f)</sub>	10		mAdc
Total Device Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	310 2.82		mW mW/°C
Junction Temperature Range	T <sub>J</sub>	-65 to +135		°C
Storage Channel Temperature Range	T <sub>stg</sub>	-65 to +150		°C

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted.)**

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Gate-Source Breakdown Voltage (I <sub>G</sub> = 10 μAdc, V <sub>DS</sub> = 0)	V <sub>(BR)GSS</sub>	40 60	—	—	Vdc
Gate Reverse Current (V <sub>GS</sub> = 20 Vdc, V <sub>DS</sub> = 0)	I <sub>GSS</sub>	—	—	5.0	nAdc
(V <sub>GS</sub> = 30 Vdc, V <sub>DS</sub> = 0)		—	—	5.0	nAdc
(V <sub>GS</sub> = 20 Vdc, V <sub>DS</sub> = 0, T <sub>A</sub> = 100°C)		—	—	1.0	μAdc
(V <sub>GS</sub> = 30 Vdc, V <sub>DS</sub> = 0, T <sub>A</sub> = 100°C)		—	—	1.0	μAdc
Gate Source Cutoff Voltage (V <sub>DS</sub> = 15 Vdc, I <sub>D</sub> = 1.0 μAdc)	V <sub>GS(off)</sub>	0.75 1.0 1.8	—	6.0 7.5 9.0	Vdc
Gate Source Voltage (V <sub>DS</sub> = 15 Vdc, I <sub>D</sub> = 0.1 mAdc)	V <sub>GS</sub>	0.5	—	4.0	Vdc
(V <sub>DS</sub> = 15 Vdc, I <sub>D</sub> = 0.2 mAdc)		0.8	—	4.5	Vdc
(V <sub>DS</sub> = 15 Vdc, I <sub>D</sub> = 0.4 mAdc)		1.5	—	6.0	Vdc
<b>ON CHARACTERISTICS</b>					
Zero-Gate-Voltage Drain Current (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 1.0 kHz)	I <sub>DSS</sub>	-1.0 -2.0 -4.0	—	-5.0 -9.0 -16	mAdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>					
Forward Transfer Admittance (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 1.0 kHz)	y <sub>fs</sub>	1000 1500 2000	—	4000 5000 6000	μmhos
Output Admittance (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 1.0 kHz)	y <sub>os</sub>	—	—	75	μmhos
Input Capacitance (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 1.0 MHz)	C <sub>iss</sub>	—	5.0	7.0	pF
Reverse Transfer Capacitance (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 1.0 MHz)	C <sub>rss</sub>	—	1.0	2.0	pF
<b>FUNCTIONAL CHARACTERISTICS</b>					
Noise Figure (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, R <sub>G</sub> = 1.0 Megohm, f = 100 Hz, BW = 1.0 Hz)	NF	—	1.0	2.5	dB
Equivalent Short-Circuit Input Noise Voltage (V <sub>DS</sub> = 15 Vdc, V <sub>GS</sub> = 0, f = 100 Hz, BW = 1.0 Hz)	e <sub>n</sub>	—	60	115	nV/√Hz

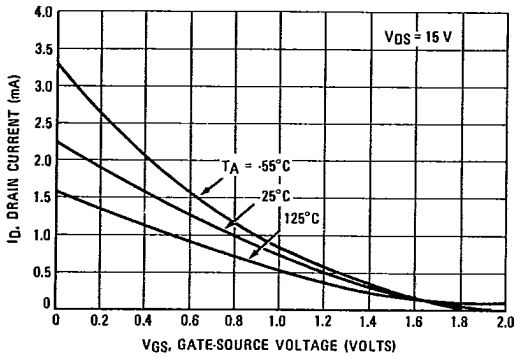
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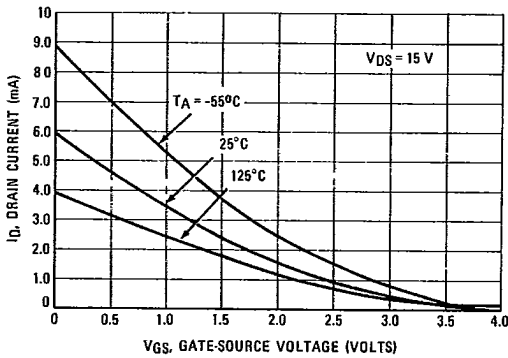
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**DRAIN CURRENT versus GATE SOURCE VOLTAGE**

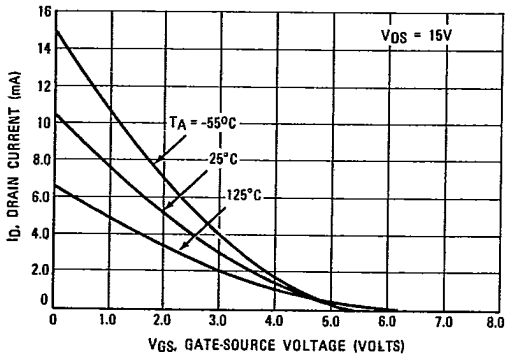
**FIGURE 1 —  $V_{GS(off)} = 2.0$  VOLTS**



**FIGURE 2 —  $V_{GS(off)} = 4.0$  VOLTS**

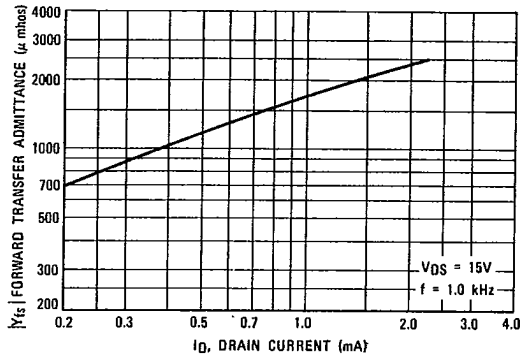


**FIGURE 3 —  $V_{GS(off)} = 5.0$  VOLTS**

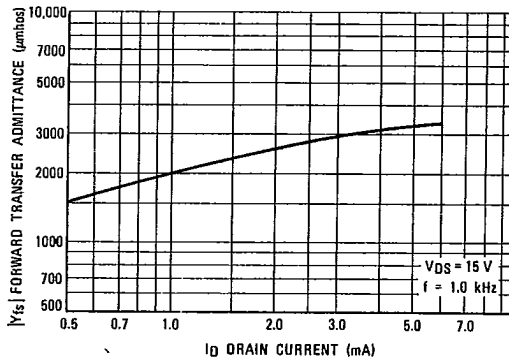


**FORWARD TRANSFER ADMITTANCE versus DRAIN CURRENT**

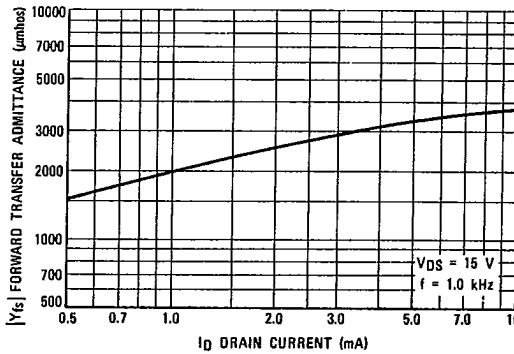
**FIGURE 4 —  $V_{GS(off)} = 2.0$  VOLTS**



**FIGURE 5 —  $V_{GS(off)} = 4.0$  VOLTS**



**FIGURE 6 —  $V_{GS(off)} = 5.0$  VOLTS**



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FIGURE 7 - OUTPUT RESISTANCE  
 VERSUS DRAIN CURRENT

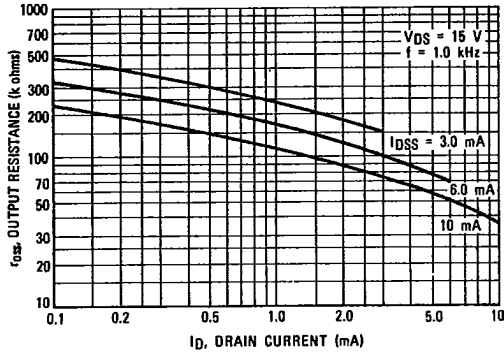


FIGURE 8 - CAPACITANCE VERSUS  
 DRAIN-SOURCE VOLTAGE

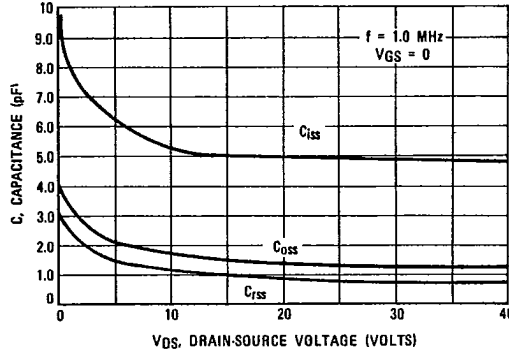


FIGURE 9 - NOISE FIGURE  
 VERSUS FREQUENCY

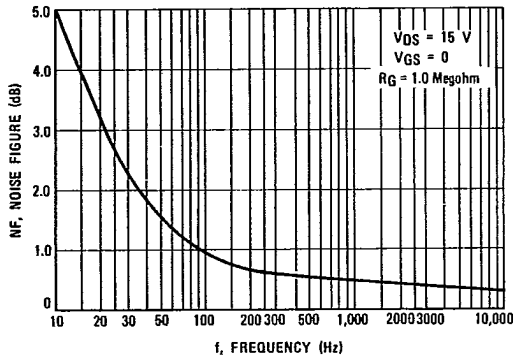


FIGURE 10 - NOISE FIGURE VERSUS  
 SOURCE RESISTANCE

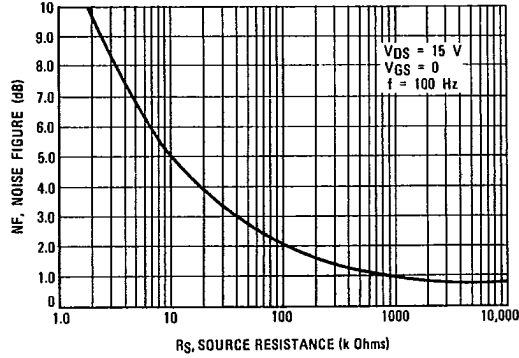
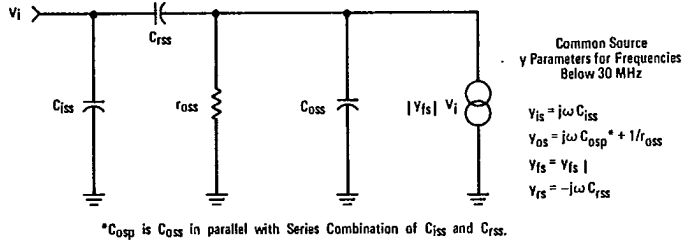


FIGURE 11 - EQUIVALENT LOW FREQUENCY CIRCUIT



NOTE:  
 1. Graphical data is presented for dc conditions. Tabular data is given for pulsed conditions (Pulse Width = 630 ns, Duty Cycle = 10%).