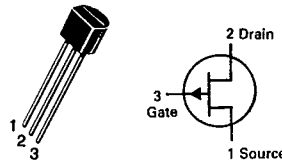


**2N5460
thru
2N5465**

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 _{DG}	40	60	V _{dc}
Reverse Gate-Source Voltage	V _{GSR}	40	60	V _{dc}
Forward Gate Current	I _{G(f)}	10		mAdc
Total Device Dissipation @ T _A = 25°C Derate above 25°C	P _D	310	2.82	mW mW/°C
Junction Temperature Range	T _J	-65 to +135		°C
Storage Channel Temperature Range	T _{stg}	-65 to +150		°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

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

MOTOROLA SMALL-SIGNAL TRANSISTORS, FETs AND DIODES

T-29-25

DRAIN CURRENT versus GATE SOURCE VOLTAGE

FIGURE 1 — $V_{GS(off)} = 2.0$ VOLTS

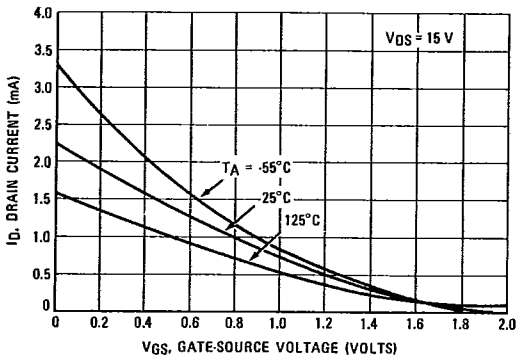


FIGURE 2 — $V_{GS(off)} = 4.0$ VOLTS

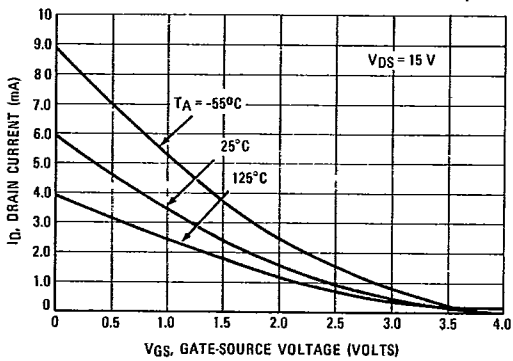
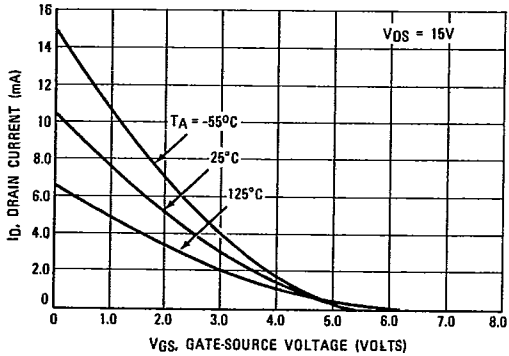


FIGURE 3 — $V_{GS(off)} = 5.0$ VOLTS



FORWARD TRANSFER ADMITTANCE versus DRAIN CURRENT

FIGURE 4 — $V_{GS(off)} = 2.0$ VOLTS

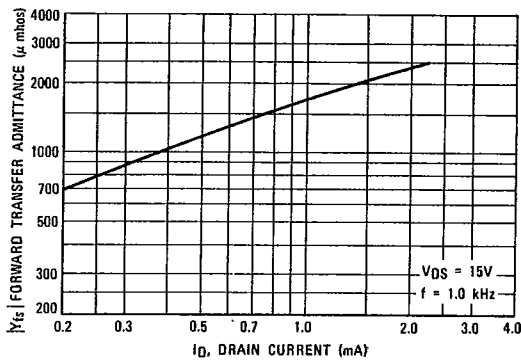


FIGURE 5 — $V_{GS(off)} = 4.0$ VOLTS

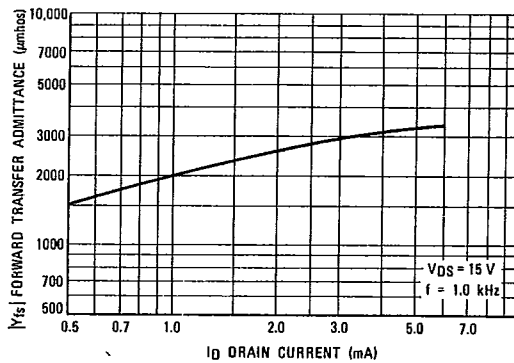
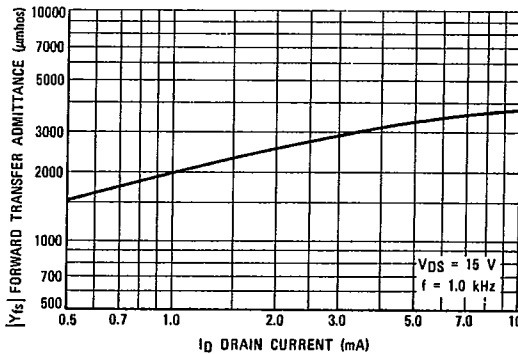


FIGURE 6 — $V_{GS(off)} = 5.0$ VOLTS



4

T-29-25

FIGURE 7 - OUTPUT RESISTANCE
VERSUS DRAIN CURRENT

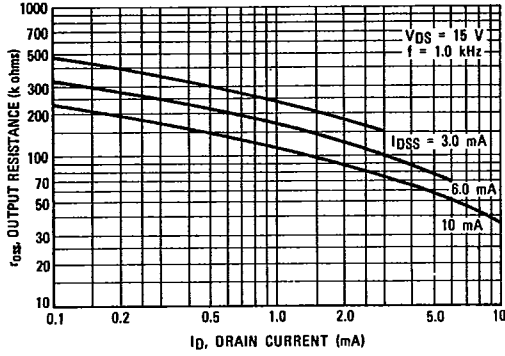


FIGURE 8 - CAPACITANCE VERSUS
DRAIN-SOURCE VOLTAGE

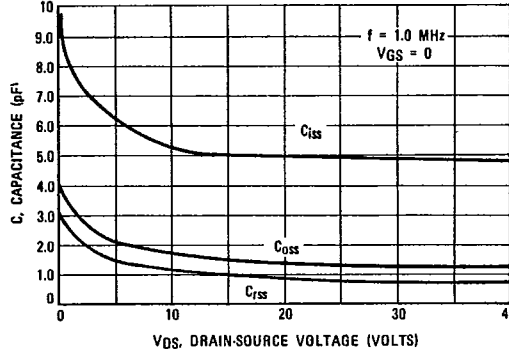


FIGURE 9 - NOISE FIGURE
VERSUS FREQUENCY

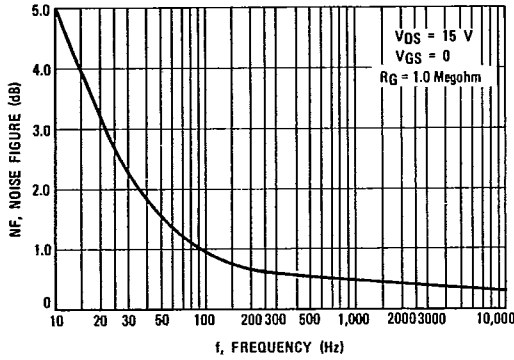


FIGURE 10 - NOISE FIGURE VERSUS
SOURCE RESISTANCE

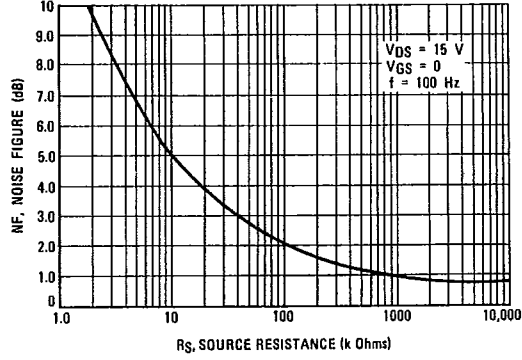
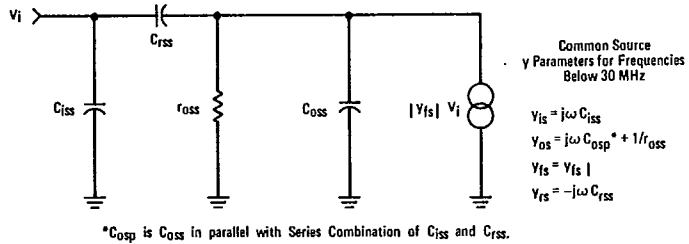


FIGURE 11 - EQUIVALENT LOW FREQUENCY CIRCUIT



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

4