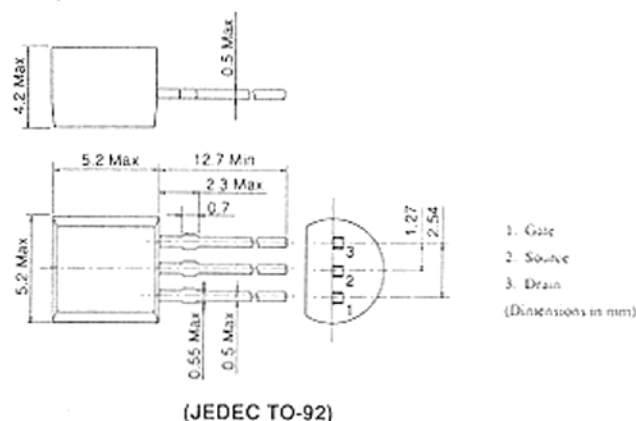


2SK168

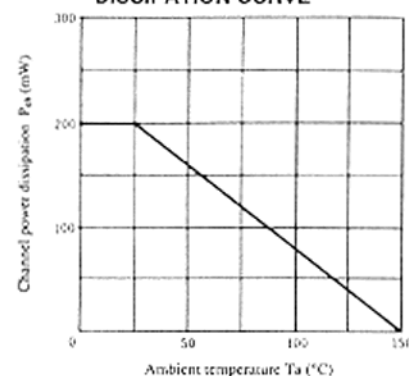
SILICON N-CHANNEL JUNCTION FET
VHF AMPLIFIER, MIXER, LOCAL OSCILLATOR



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SK168	Unit
Gate to drain voltage	V_{GDO}	-30	V
Gate to source voltage	V_{GSS}	-1	V
Gate current	I_G	10	mA
Drain current	I_D	20	mA
Channel power dissipation	P_{ch}	200	mW
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

MAXIMUM CHANNEL POWER DISSIPATION CURVE



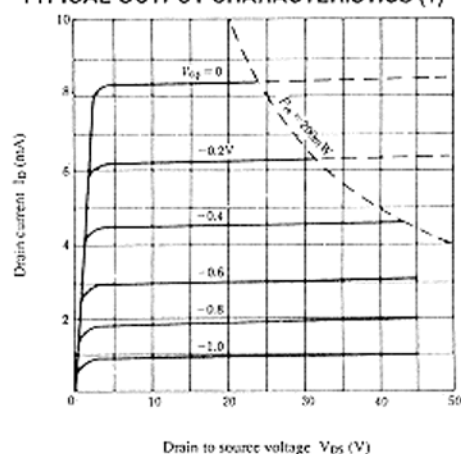
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Gate to drain breakdown voltage	$V_{(BR)GDO}$	$I_G = -100\mu A, I_S = 0$	-30	—	—	V
Gate cutoff current	I_{GSS}	$V_{GS} = -0.5V, V_{DS} = 0$	—	—	-10	nA
Drain current	I_{DSS}^*	$V_{DS} = 5V, V_{GS} = 0$	4	—	20	mA
Gate to source cutoff voltage	$V_{GS(off)}$	$V_{DS} = 5V, I_D = 10\mu A$	—	—	-3.0	V
Forward transfer admittance	$ y_{fs} $	$V_{DS} = 5V, V_{GS} = 0, f = 1kHz$	8	10	—	mS
Input capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$	—	6.8	—	pF
Reverse transfer capacitance	C_{rss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$	—	0.1	—	pF
Power gain	PG	$V_{DS} = 5V, V_{GS} = 0, f = 100MHz$	—	27	—	dB
Noise figure	NF	$V_{DS} = 5V, V_{GS} = 0, f = 100MHz$	—	1.7	—	dB

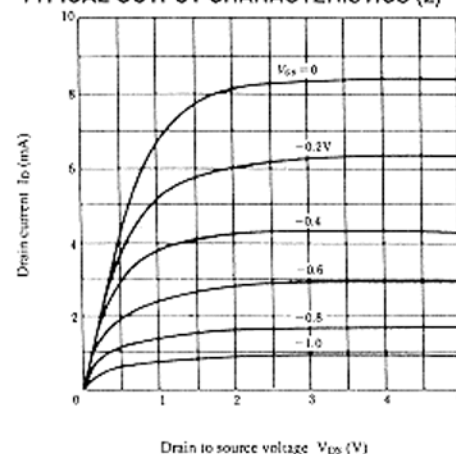
* The 2SK168 is grouped by I_{DSS} as follows.

D	E	F
4 to 8	6 to 12	10 to 20

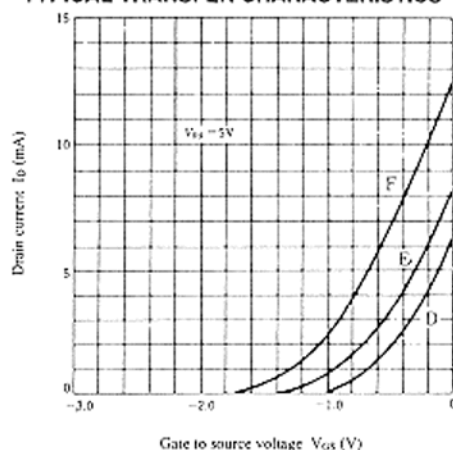
TYPICAL OUTPUT CHARACTERISTICS (1)



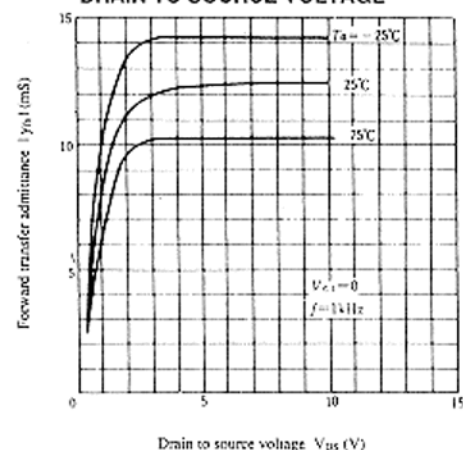
TYPICAL OUTPUT CHARACTERISTICS (2)



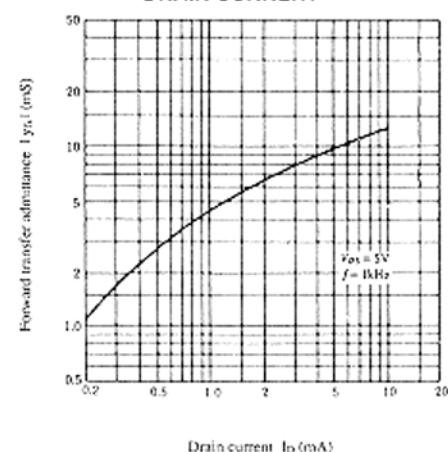
TYPICAL TRANSFER CHARACTERISTICS



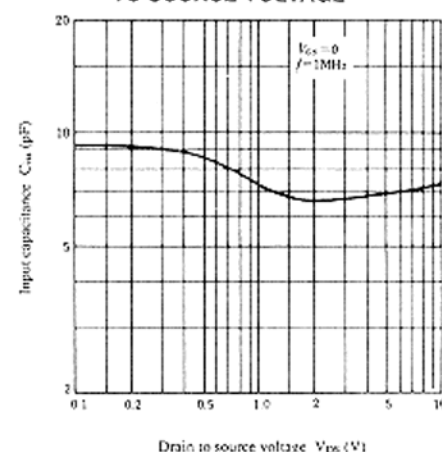
FORWARD TRANSFER ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE



FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT

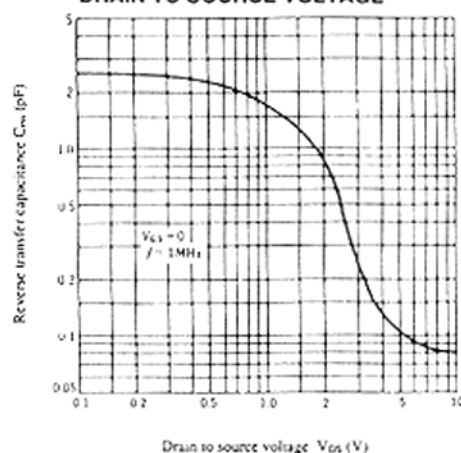


INPUT CAPACITANCE VS. DRAIN TO SOURCE VOLTAGE

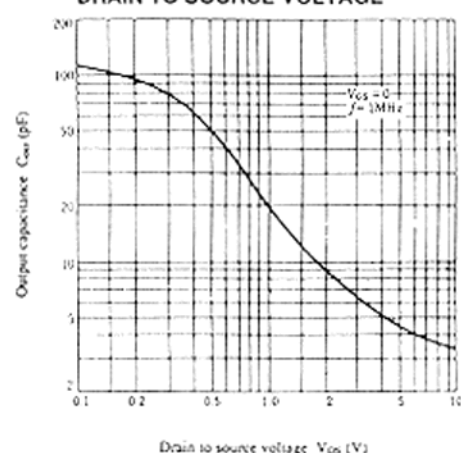


2SK168

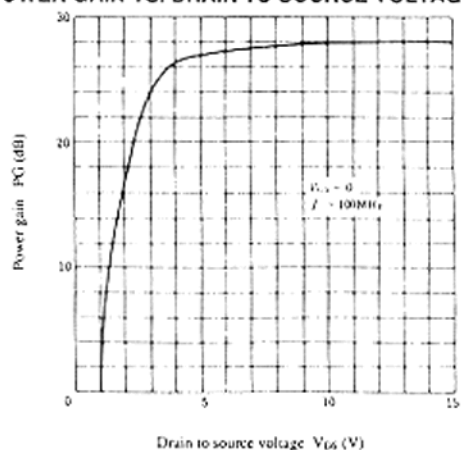
REVERSE TRANSFER CAPACITANCE VS.
DRAIN TO SOURCE VOLTAGE



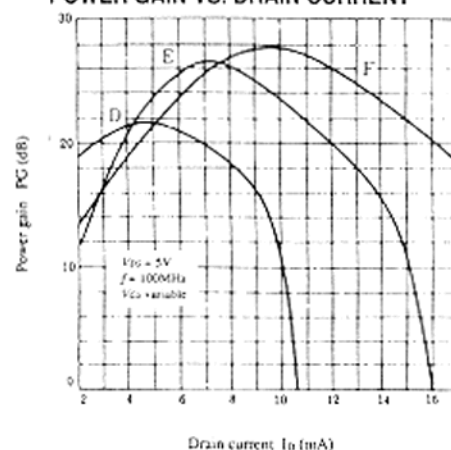
OUTPUT CAPACITANCE VS.
DRAIN TO SOURCE VOLTAGE



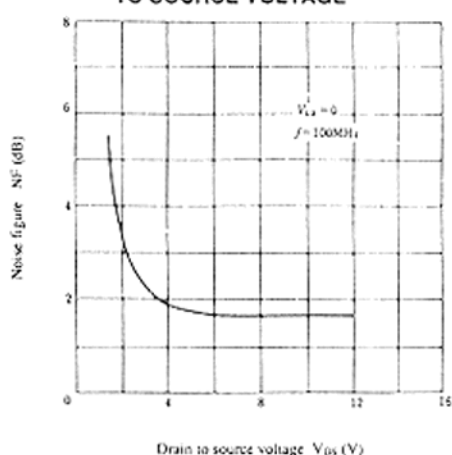
POWER GAIN VS. DRAIN TO SOURCE VOLTAGE



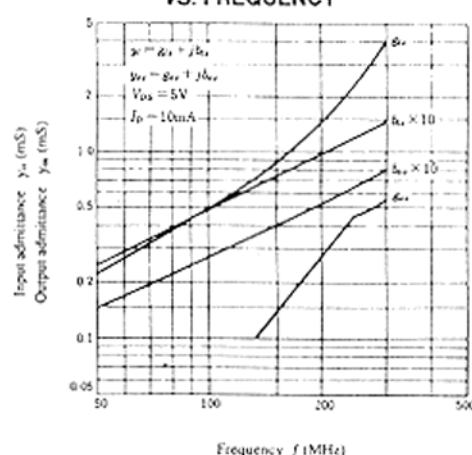
POWER GAIN VS. DRAIN CURRENT



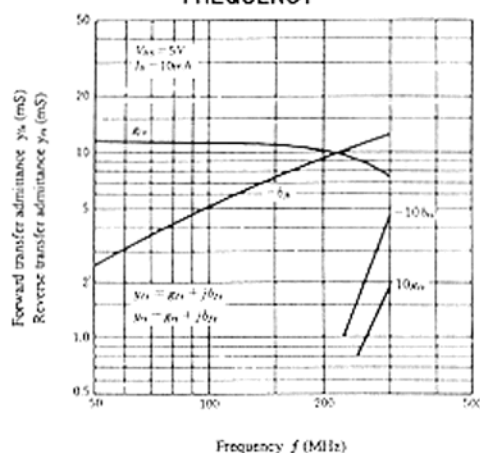
NOISE FIGURE VS. DRAIN
TO SOURCE VOLTAGE



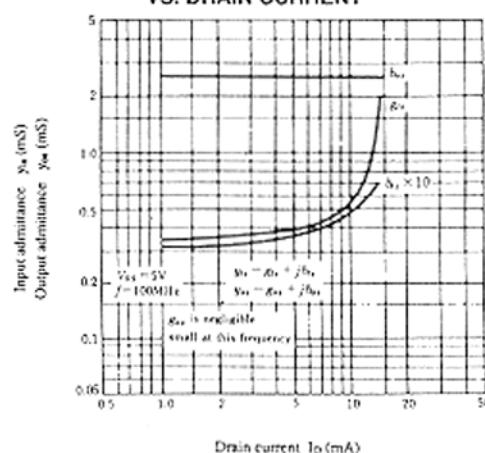
INPUT AND OUTPUT ADMITTANCE
VS. FREQUENCY



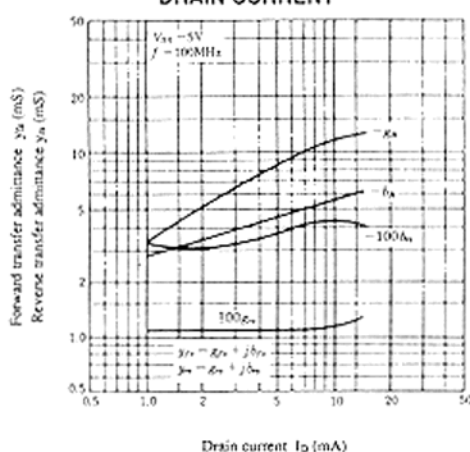
TRANSFER ADMITTANCE VS.
FREQUENCY



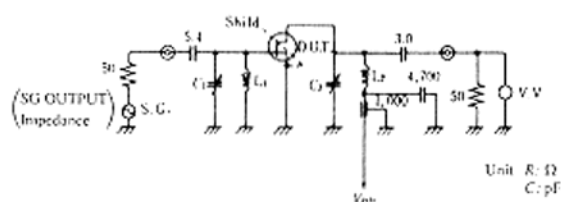
INPUT AND OUTPUT ADMITTANCE
VS. DRAIN CURRENT



TRANSFER ADMITTANCE VS.
DRAIN CURRENT



POWER GAIN AND NOISE FIGURE
TEST CIRCUIT



C_1, C_2 : 0 to 30pF Variable Air
 L_1 : 3.5T 1mm Copper Ribbon, Tin plated 10mm inside dia.
 L_2 : 4.5T 1mm Copper Ribbon, Tin plated 10mm inside dia.