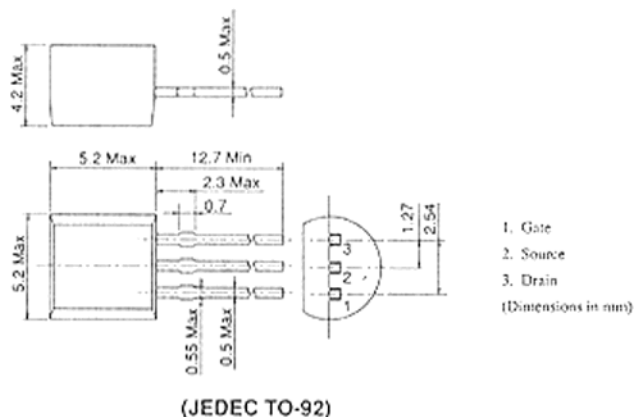


## 2SK55

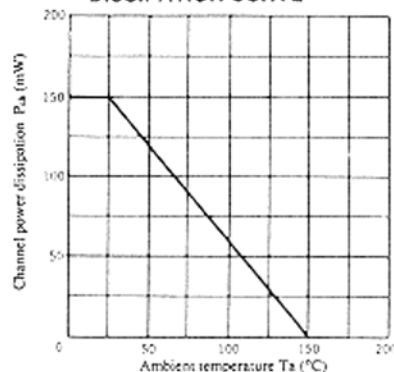
SILICON N-CHANNEL JUNCTION FET  
VHF AMPLIFIER, MIXER



### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SK55	Unit
Gate to drain voltage	$V_{GDO}$	-18	V
Gate current	$I_G$	10	mA
Channel power dissipation	$P_{ch}$	150	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)

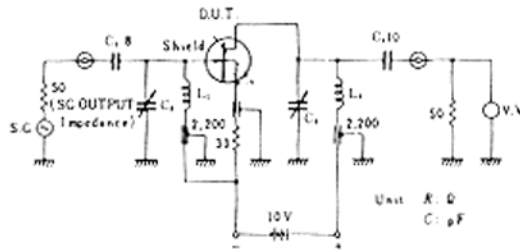
Item	Symbol	Test Condition	min.	typ.	max.	Unit
Gate to drain breakdown voltage	$V_{(BR)GDO}$	$I_G = -100\mu A, I_S = 0$	-18	—	—	V
Gate cutoff current	$I_{GSS}$	$V_{GS} = -0.5V, V_{DS} = 0$	—	—	-10	nA
Drain current	$I_{DSS}^*$	$V_{DS} = 10V, V_{GS} = 0$	3	—	14	mA
Gate to source breakdown voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 10\mu A$	-0.3	—	-5.5	V
Forward transfer admittance	$ y_{fs} $	$V_{DS} = 10V, V_{GS} = 0, f = 1kHz$	3	8	—	mS
Input capacitance	$C_{is}$	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$	—	3	—	pF
Reverse transfer capacitance	$C_{rs}$	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$	—	0.4	0.6	pF
Power gain	PG	$V_{DD} = 10V, R_S = 33\Omega, f = 100MHz$	—	18	—	dB
Noise figure	NF		—	2.0	3.5	dB

\* The 2SK55 is grouped by  $I_{DSS}$  as follows.

D	E
3 to 2mA	6 to 14mA

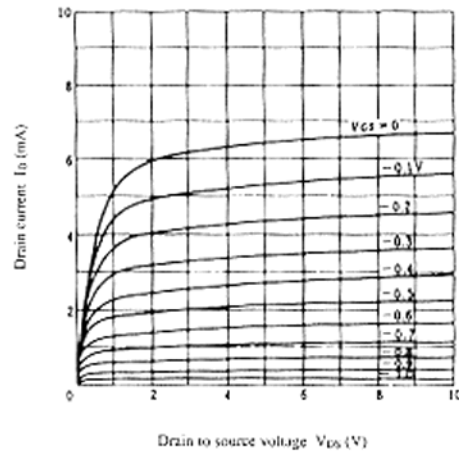
## 2SK55

### POWER GAIN AND NOISE FIGURE TEST CIRCUIT

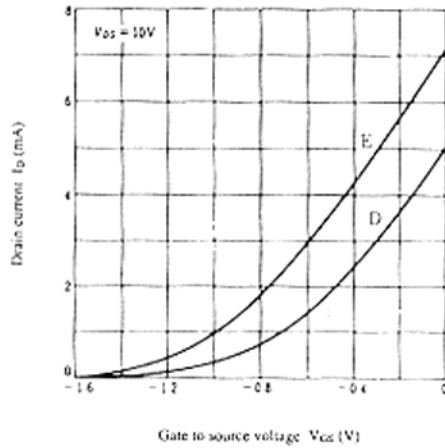


- $C_1, C_2$ : 30pF max. Variable Air  
 $L_1$ : 3T 1.0mm Copper Ribbon, Tin plated 10mm Inside dia. 5.0mm pitch.  
 $L_2$ : 3 ST 1.0mm Copper Ribbon, Tin plated 10mm Inside dia. 5.0mm pitch.

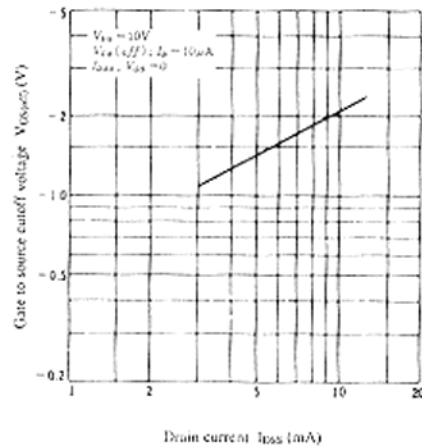
### TYPICAL OUTPUT CHARACTERISTICS



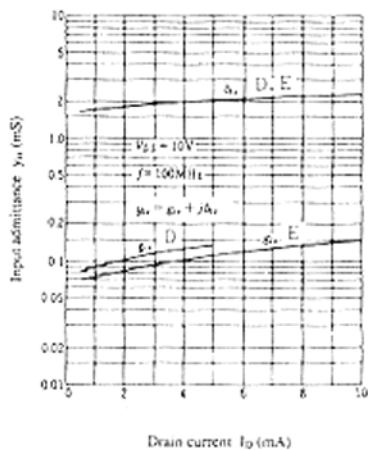
### TYPICAL TRANSFER CHARACTERISTICS



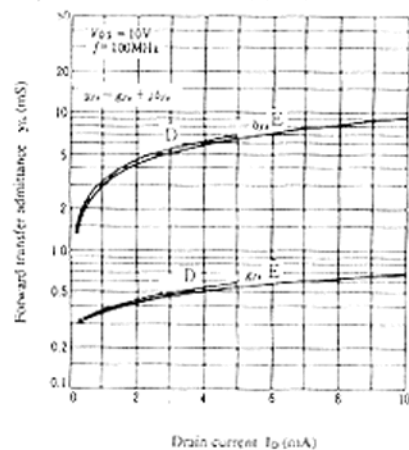
### GATE TO SOURCE CUTOFF VOLTAGE VS. DRAIN CURRENT



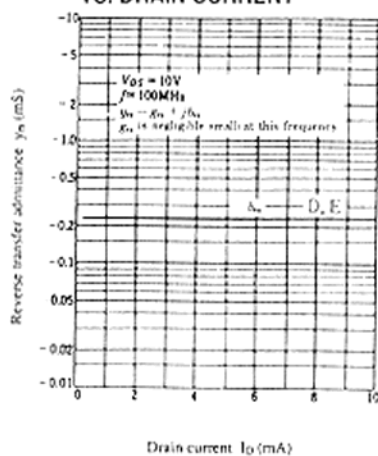
### INPUT ADMITTANCE VS. DRAIN CURRENT



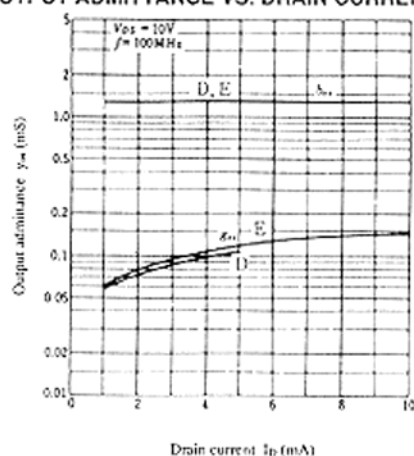
### FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT



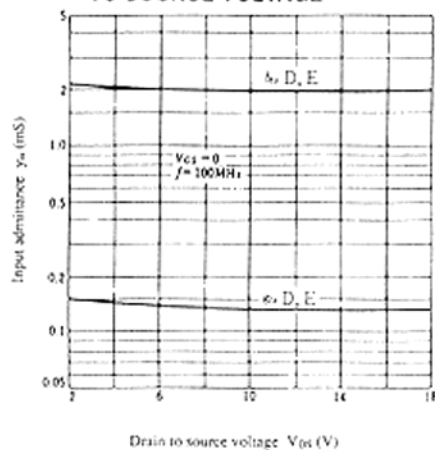
### REVERSE TRANSFER ADMITTANCE VS. DRAIN CURRENT



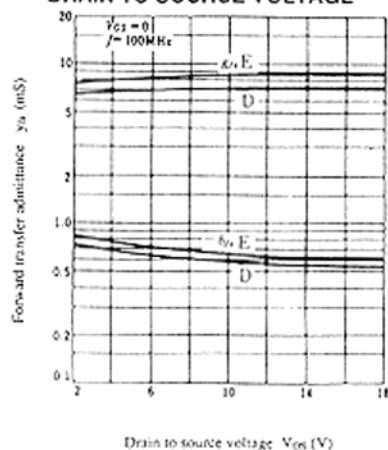
### OUTPUT ADMITTANCE VS. DRAIN CURRENT



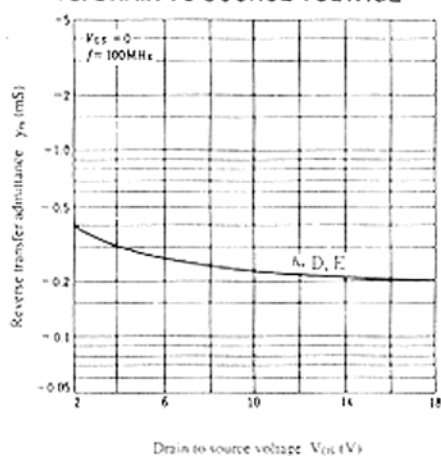
### INPUT ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE



### FORWARD TRANSFER ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE



### REVERSE TRANSFER ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE



### OUTPUT ADMITTANCE VS. DRAIN TO SOURCE VOLTAGE

