



## FM Tuner Applications

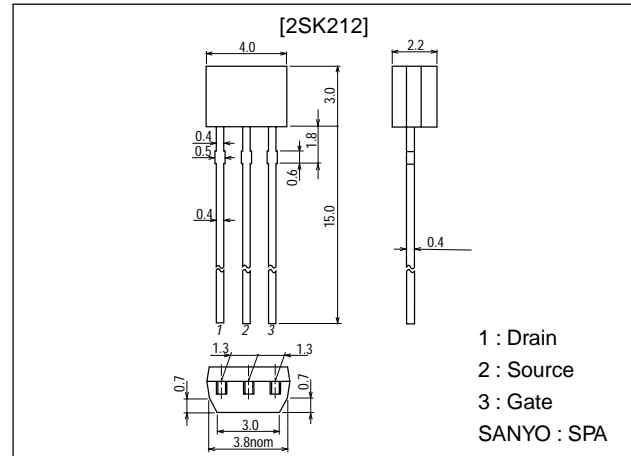
### Features

- Ideal for FM tuners in low-voltage radios, car radios, etc.
- Small-sized package permitting 2SK212-applied sets to be made small and slim.
- Small  $C_{rss}$  ( $C_{rss}=0.04\text{pF}$  typ).
- High  $|y_{fs}|$  ( $|y_{fs}|=6.0\text{mS}$  typ).

### Package Dimensions

unit:mm

2040A



### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Gate-to-Drain Voltage	$V_{GDO}$		-20	V
Gate Current	$I_G$		10	mA
Drain Current	$I_D$		20	mA
Allowable Power Dissipation	$P_D$		200	mW
Junction Temperature	$T_j$		125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ\text{C}$

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G=-10\mu\text{A}$	-20			V
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=-0.5\text{V}, V_{DS}=0$			-10	nA
Zero-Gate Voltage Drain Current	$I_{DSS}^*$	$V_{DS}=5\text{V}, V_{GS}=0$	0.6*		12.0*	mA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=5\text{V}, I_D=10\mu\text{A}$			-2.5	V
Forward Transfer Admittance	$ y_{fs} _1$	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{kHz}$	2.0	6.0		mS
	$ y_{fs} _2$	$V_{DS}=5\text{V}, V_{GS}=0, f=100\text{MHz}$	2.0	6.0		mS
Input Capacitance	$C_{iss}$	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		4.0		pF
Output Capacitance	$C_{oss}$	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		4.0		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=5\text{V}, V_{GS}=0, f=1\text{MHz}$		0.04	0.15	pF

\* : The 2SK212 is classified by  $I_{DSS}$  as follows (unit : mA).

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0.6	C	1.5	1.2	D	3.0	2.5	E	6.0	5.0	F	12.0
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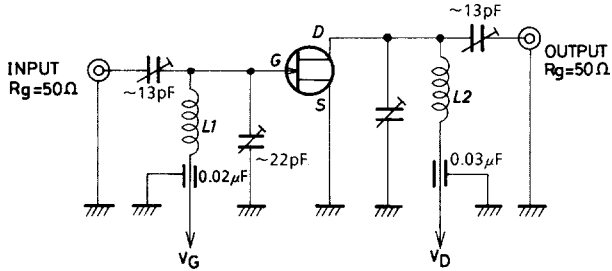
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# 2SK212

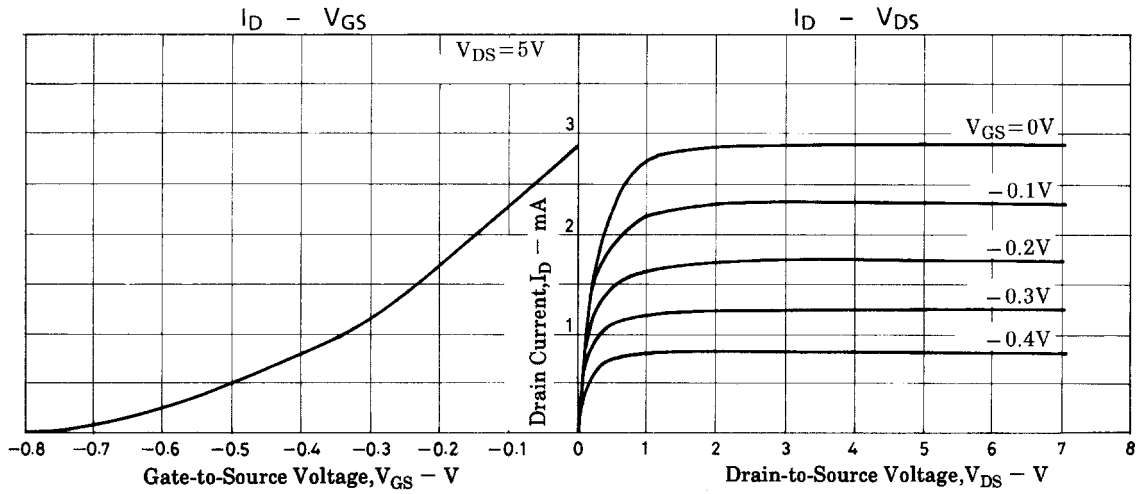
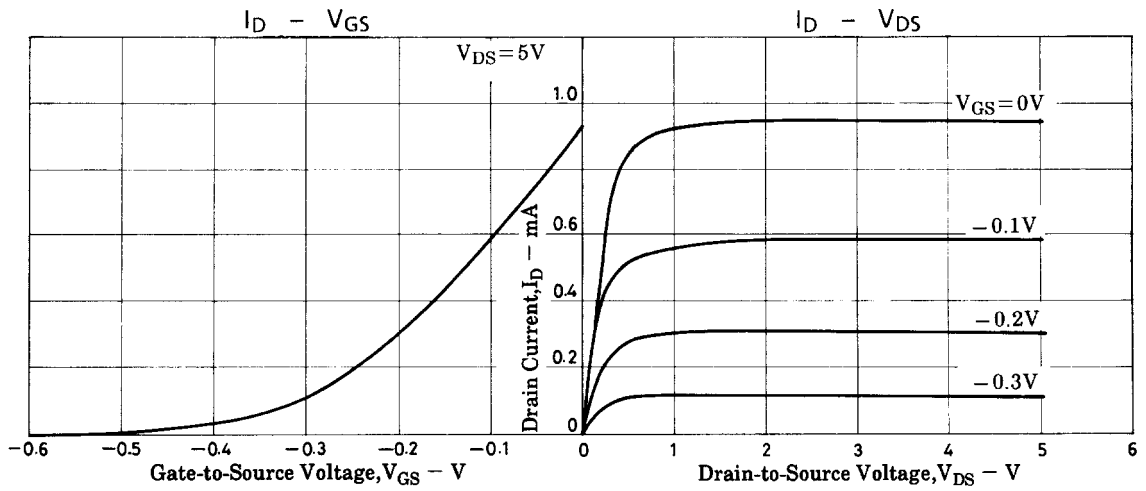
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Parameter	Symbol	Conditions	Ratings		Unit
Power Gain	PG	$V_{DS}=5V$ , $V_{GS}=0$ , $f=100MHz$ , See specified Test Circuit	21		dB
Noise Figure	NF	See specified Test Circuit	3.5	6.0	dB

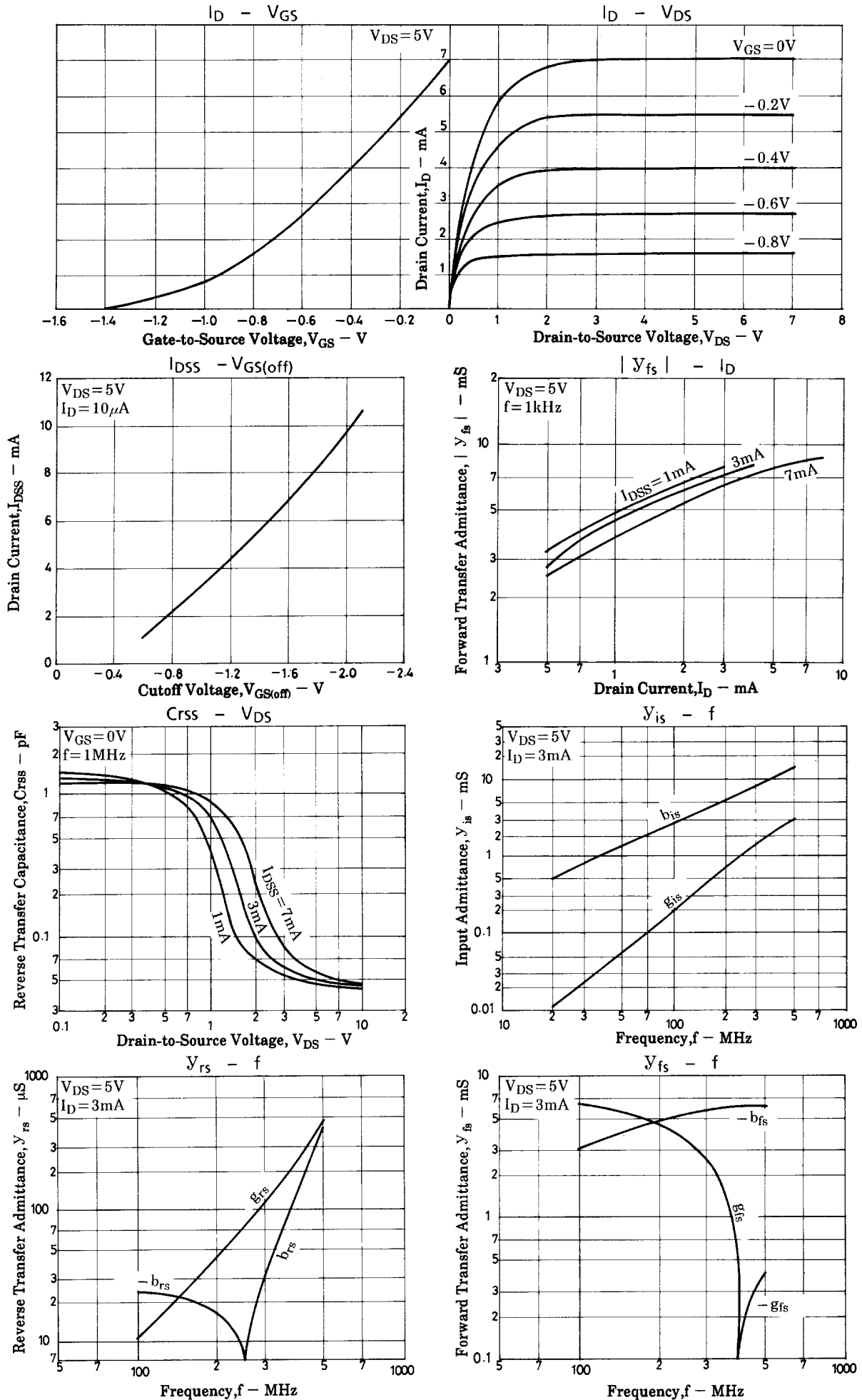
## PG, NF Specified Test Circuit



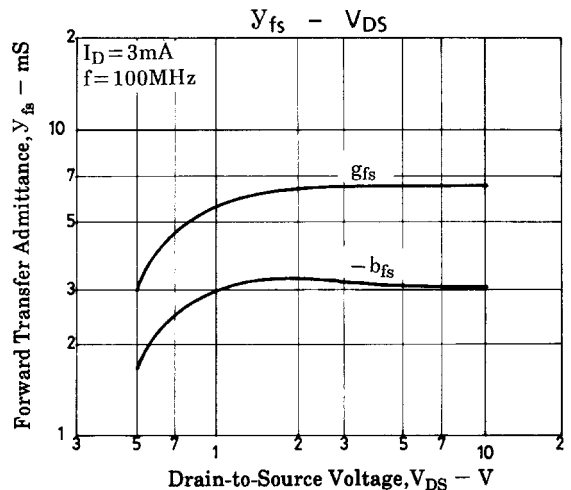
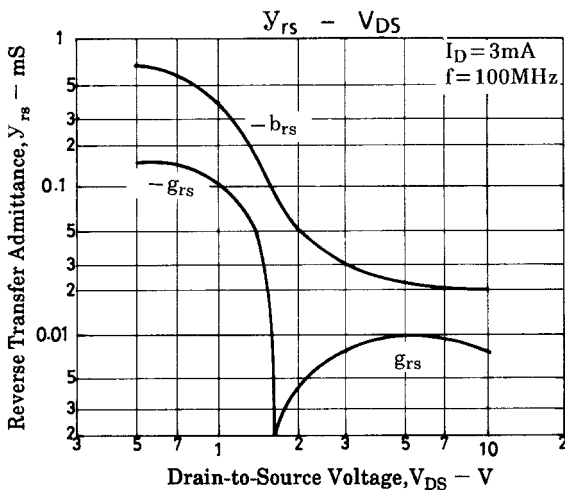
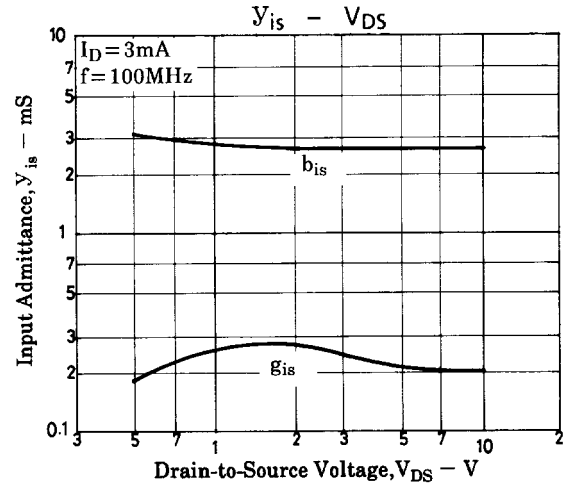
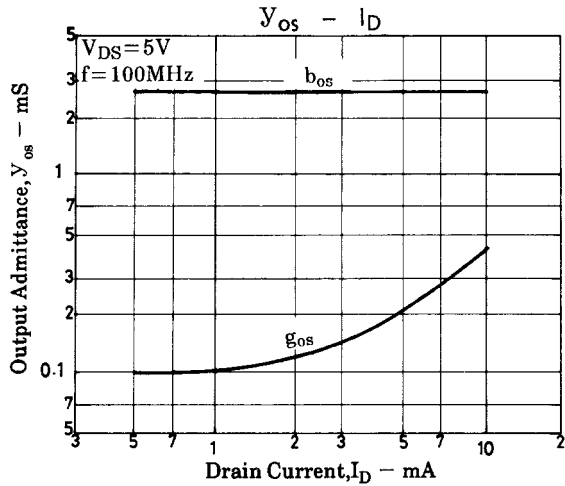
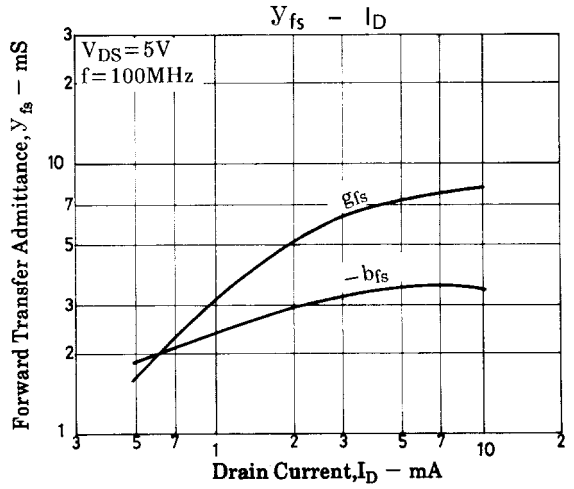
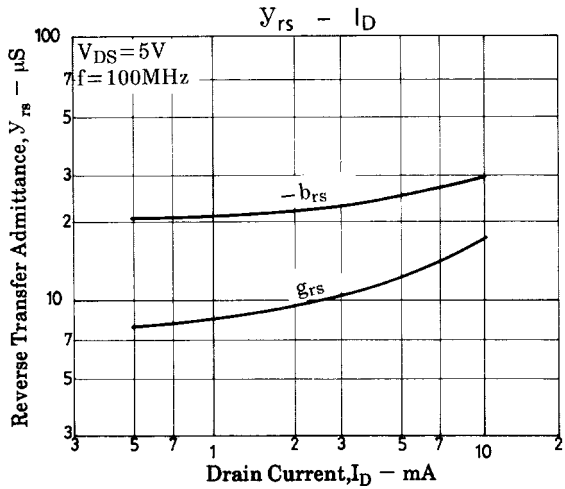
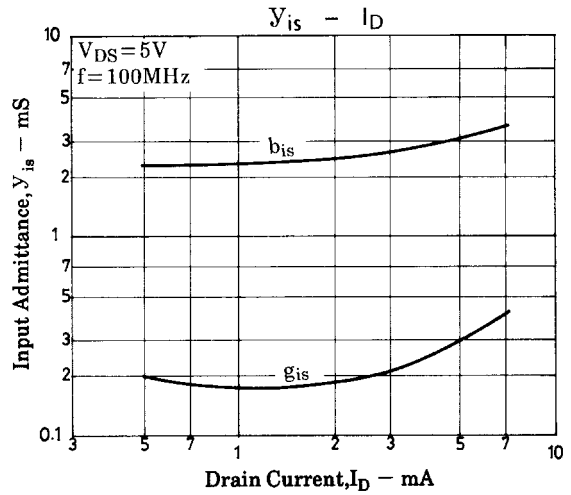
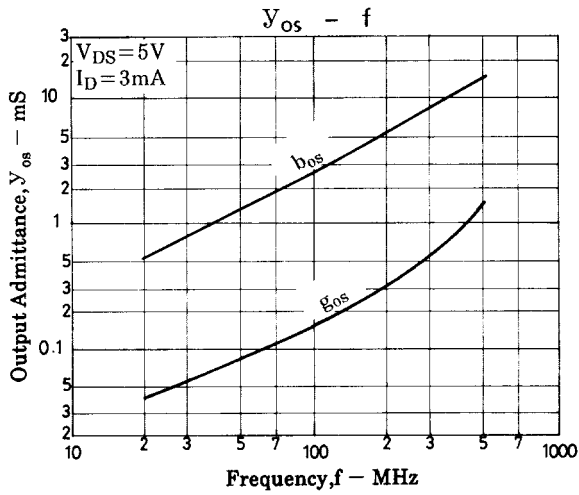
L1 : 1mmϕ tin-plated wire, air core 10mmϕ 4.5T  
L2 : 1mmϕ tin-plated wire, air core 10mmϕ 3.5T



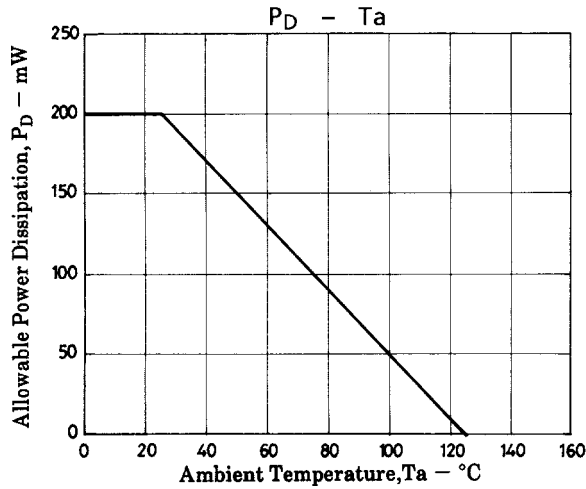
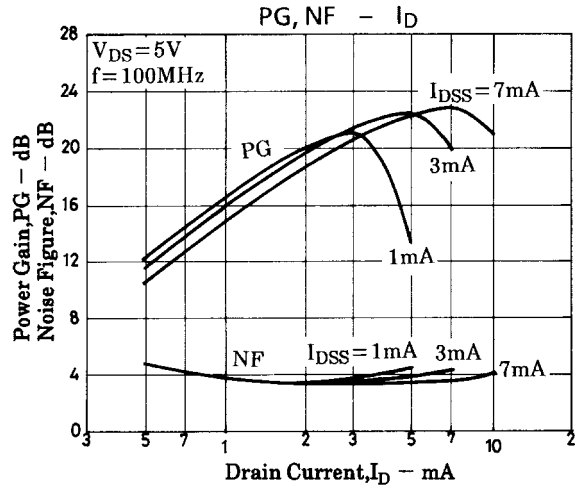
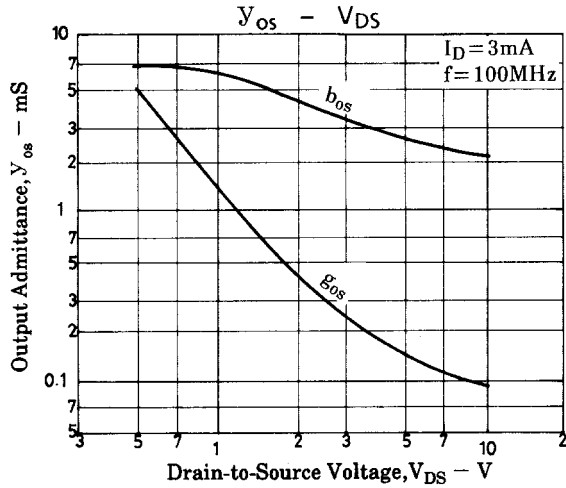
# 2SK212



# 2SK212



## 2SK212



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