



FM Tuner Applications

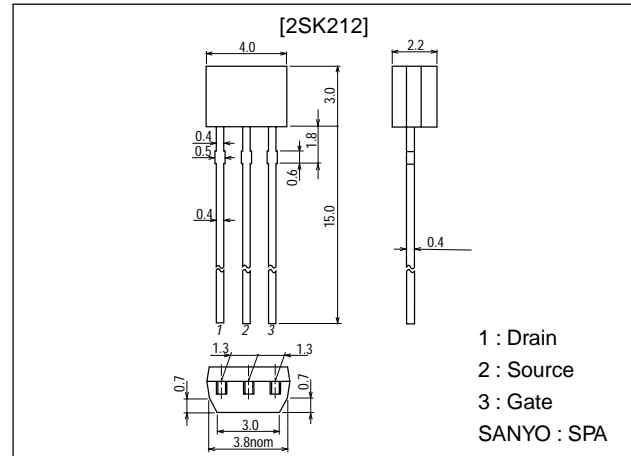
Features

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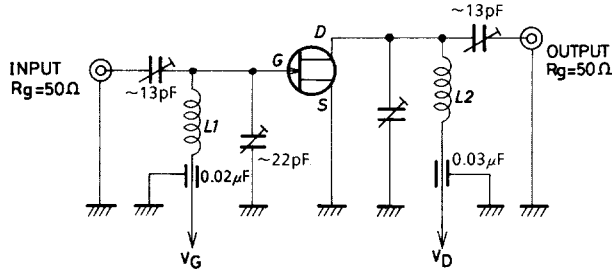
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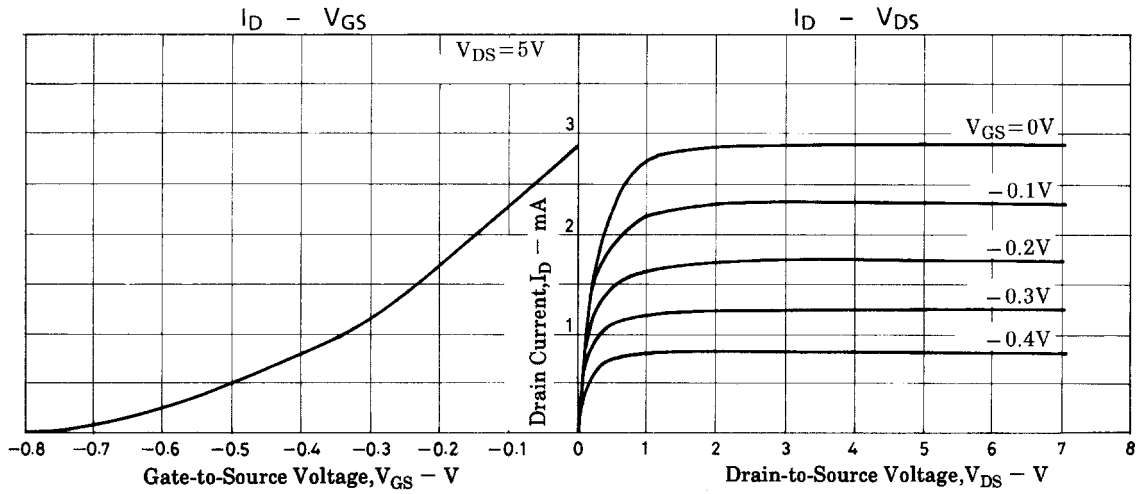
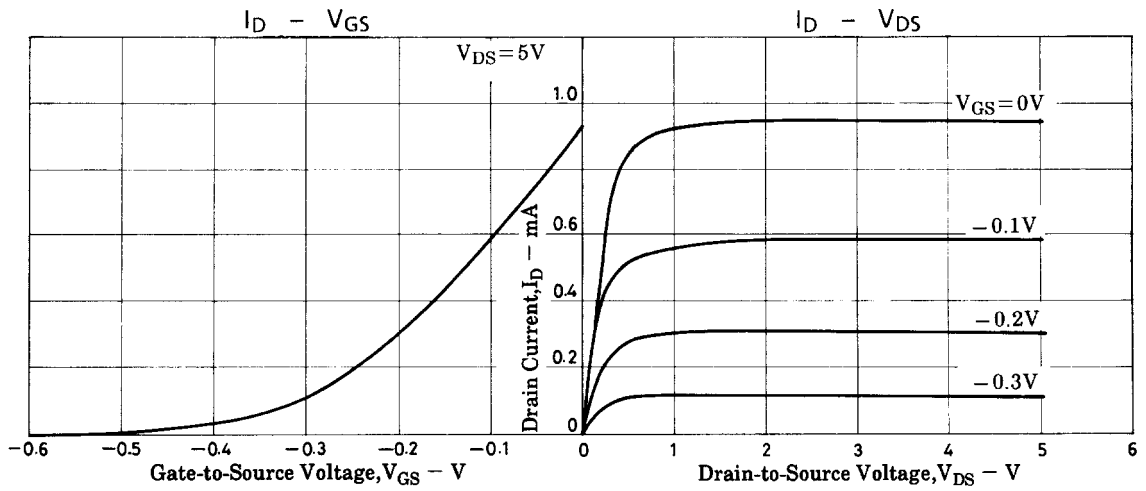
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Parameter	Symbol	Conditions	Ratings		Unit
Power Gain	PG	$V_{DS}=5V$, $V_{GS}=0$, $f=100MHz$, See specified Test Circuit	21		dB
Noise Figure	NF	See specified Test Circuit	3.5	6.0	dB

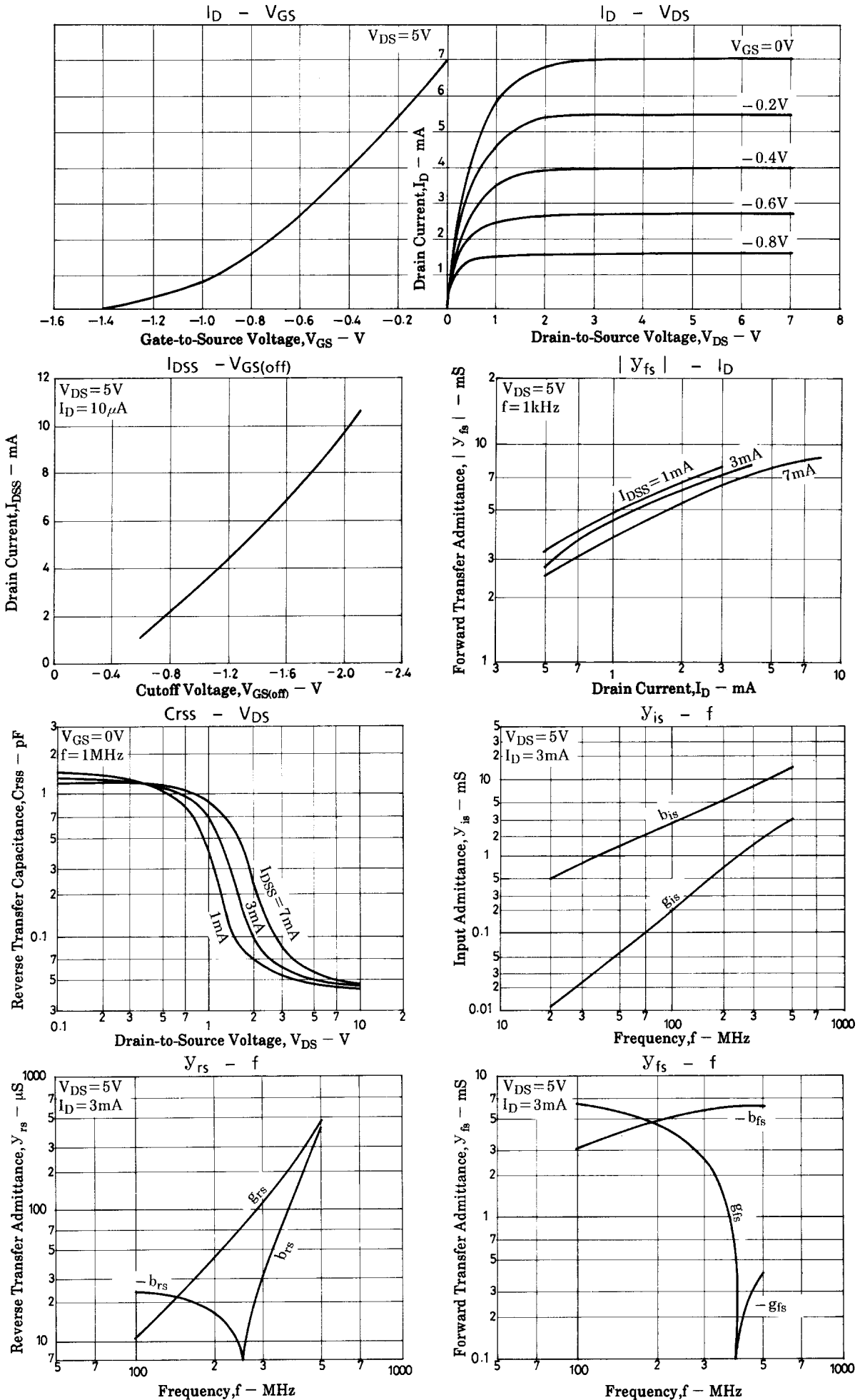
PG, NF Specified Test Circuit



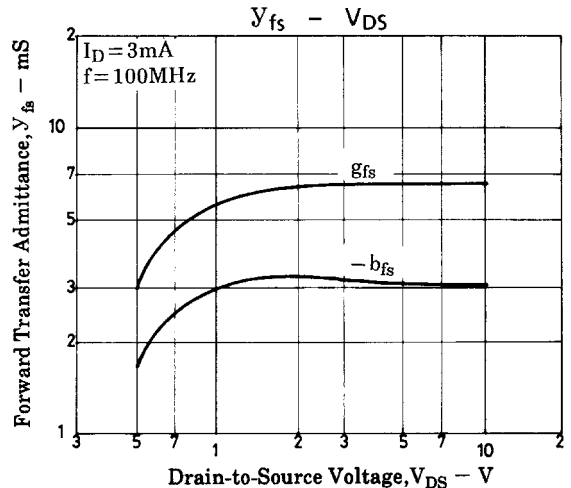
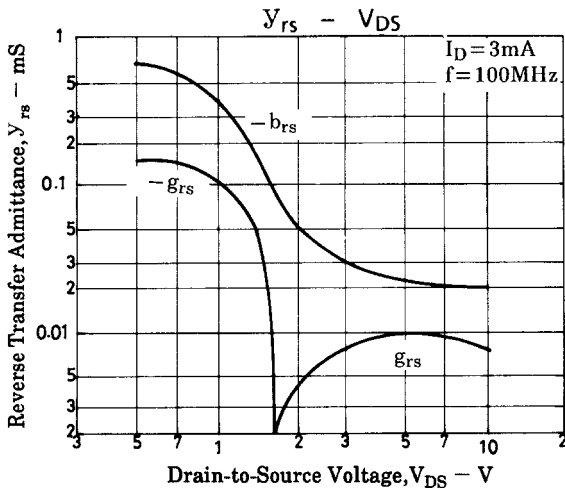
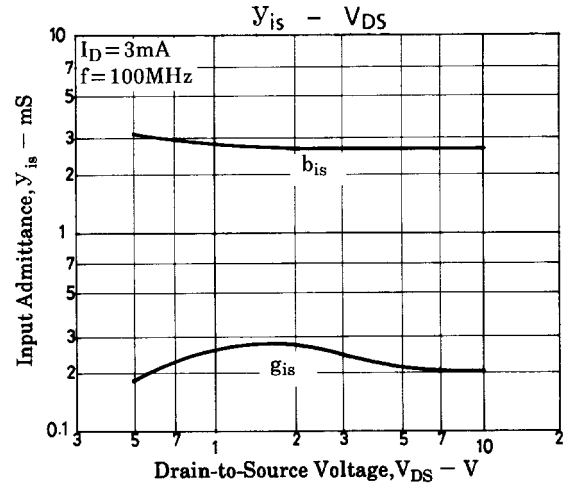
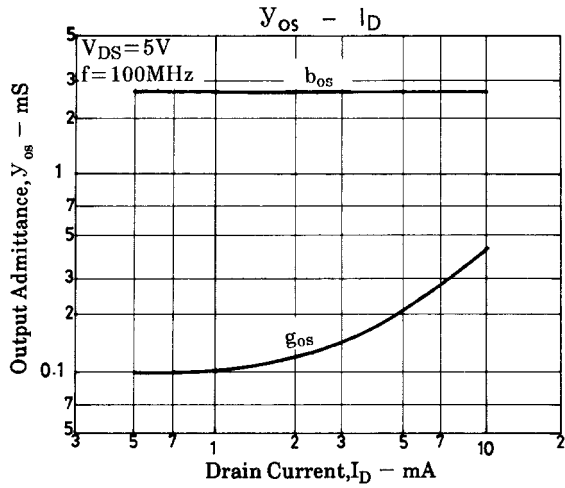
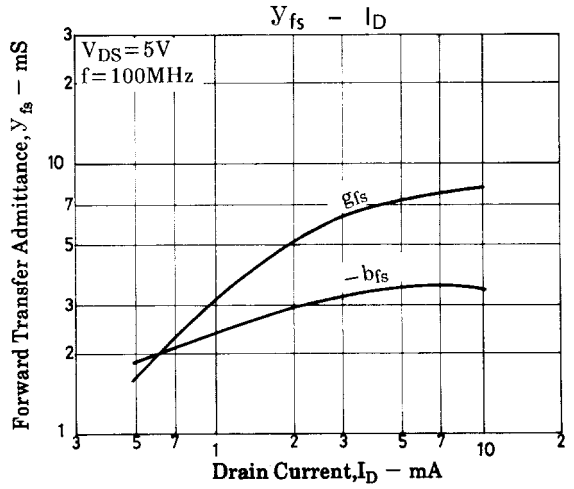
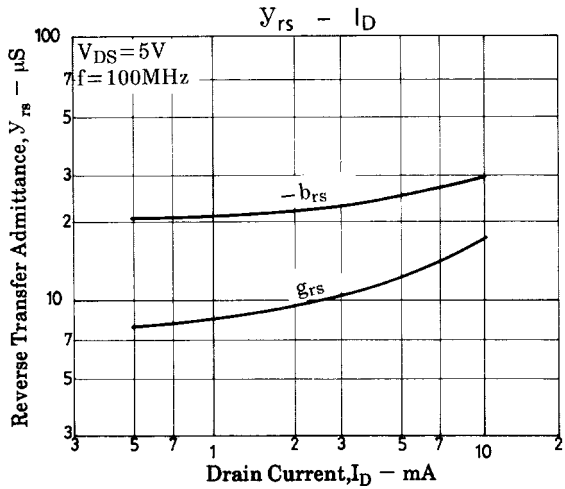
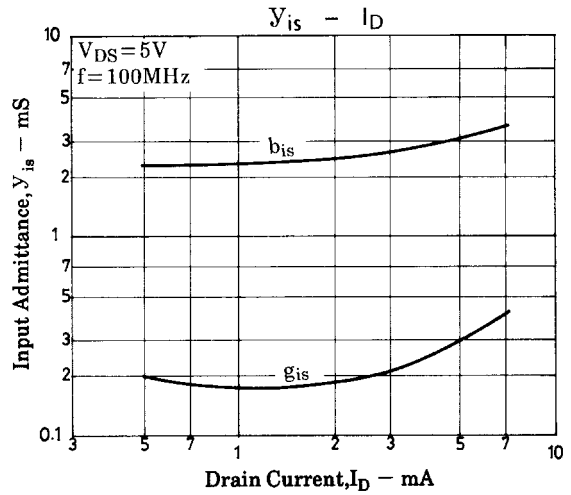
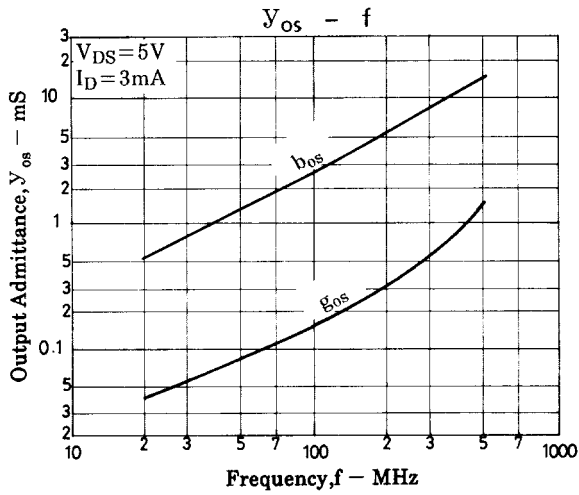
L1 : 1mmϕ tin-plated wire, air core 10mmϕ 4.5T
L2 : 1mmϕ tin-plated wire, air core 10mmϕ 3.5T



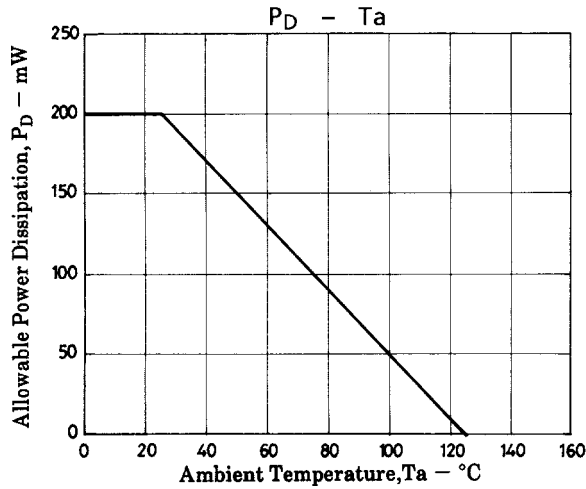
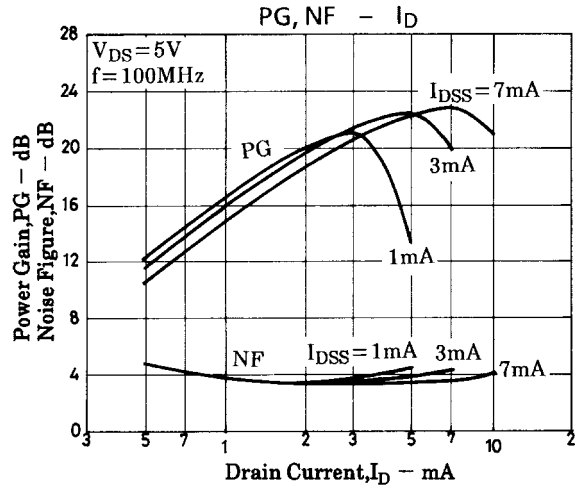
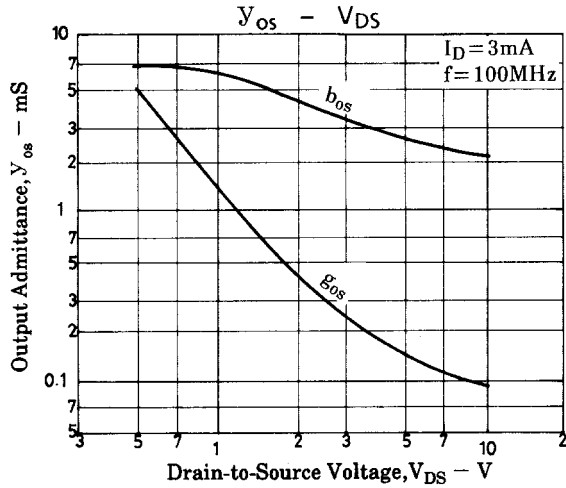
2SK212



2SK212



2SK212



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