Ordering number:EN2719

N-Channel Silicon MOSFET

2SK1067

FM Tuner, VHF-Band Amplifier Applications

Features

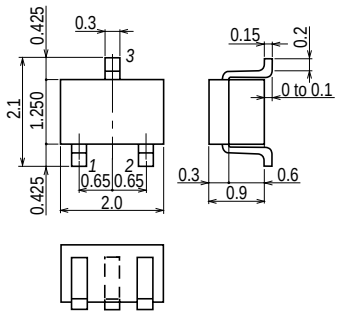
- Low noise NF=1.8dB typ (f=100MHz).
- High power gain PG=27dB typ (f=100MHz).
- Small reverse transfer capacitance Crss=0.035pF (V_{DS}=10V, f=1MHz).
- Ultrasmall-sized package (MCP) permitting 2SK1067-applied sets to be made smaller and slimmer.

Package Dimensions

unit:mm

2057

[2SK1067]



1 : Gate
2 : Drain
3 : Source
SANYO : MCP

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		16	V
Gate-to-Source Voltage	V_{GS}		±5	V
Drain Current	I_D		30	mA
Allowable Power Dissipation	P_D		150	mW
Channel Temperature	Tch		125	˚C
Storage Temperature	Tstg		–55 to +125	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Voltage	V_{DSX}	V_{GS}=–4V, I_D=100µA	16			V
Gate-to-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±5V			10	nA
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=10V, V_{GS}=0	1.2*		12.0*	mA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=100µA			–2.5	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, V_{GS}=0, f=1kHz		11		mS
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0, f=1MHz		2.3		pF
Reverse Transfer Capacitance	Crss	V_{DS}=10V, V_{GS}=0, f=1MHz		0.035		pF

* : The 2SK1067 is classified by I_{DSS} as follows (unit : mA) :

1.2	3	3.0	2.5	4	6.0	5.0	5	12.0

(Note) Marking : CJ
I_{DSS} rank : 3, 4, 5

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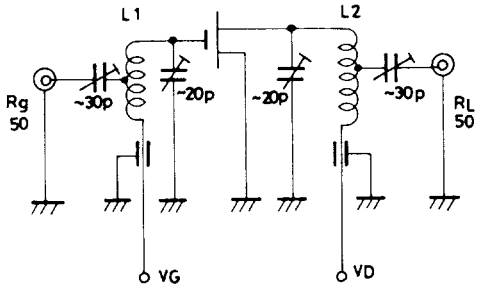
Continued from preceding page.

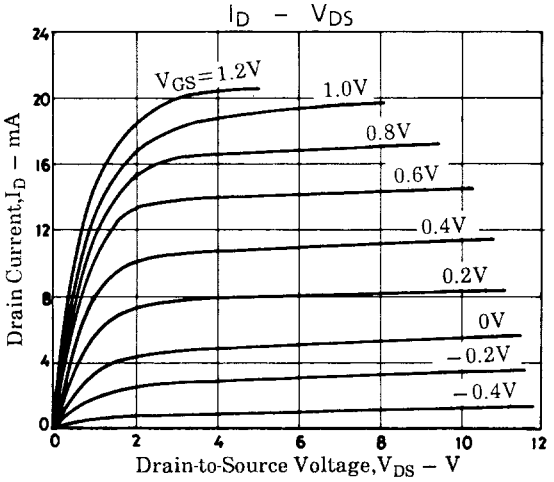
Parameter	Symbol	Conditions	Ratings			Unit
Power Gain	PG	V_{DS}=10V, V_{GS}=0, f=100MHz, See specified Test Circuit		27		dB
Noise Figure	NF	V_{DS}=10V, V_{GS}=0, f=100MHz, See specified Test Circuit		1.8	3.0	dB

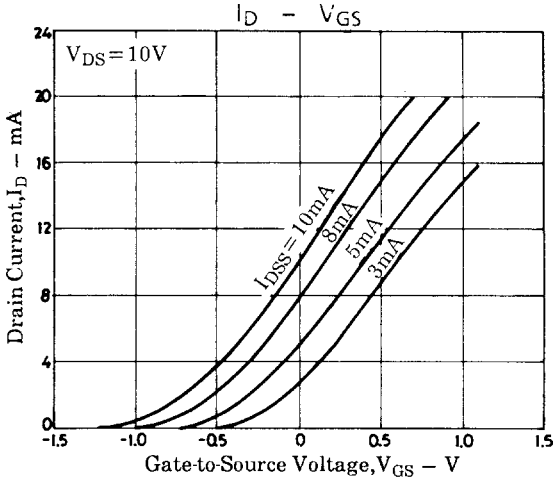
PG, NF Specified Test Circuit

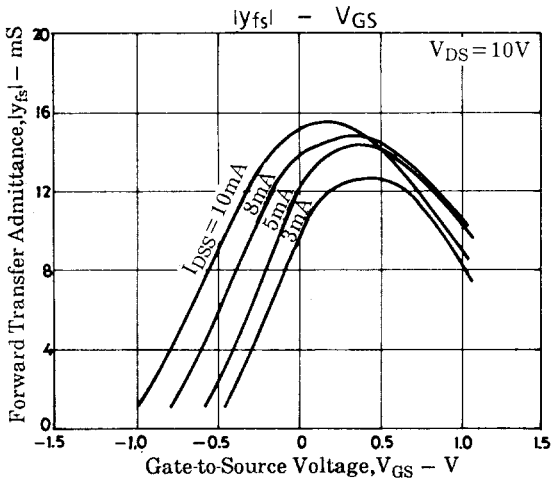


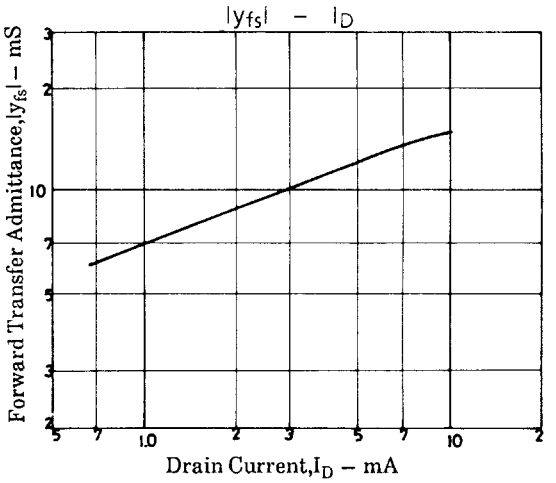
L1 : 1.0mm$^{\varnothing}$ plated wire, 10mm$^{\varnothing}$ 6T, tap : 3T from H side
L2 : 1.0mm$^{\varnothing}$ plated wire, 10mm$^{\varnothing}$ 7T, tap : 4T from H side

Unit (resistance : Ω, capacitance : F)

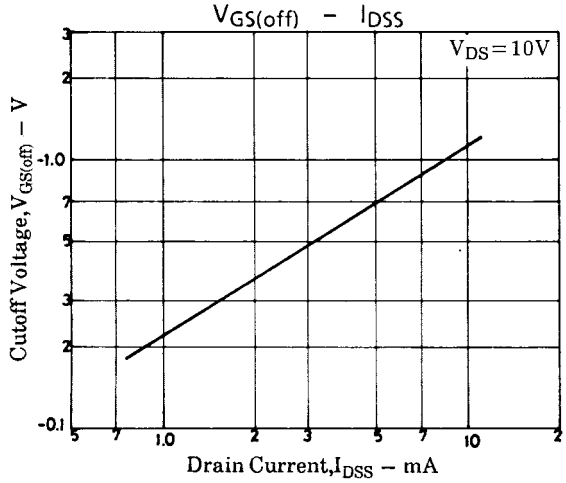




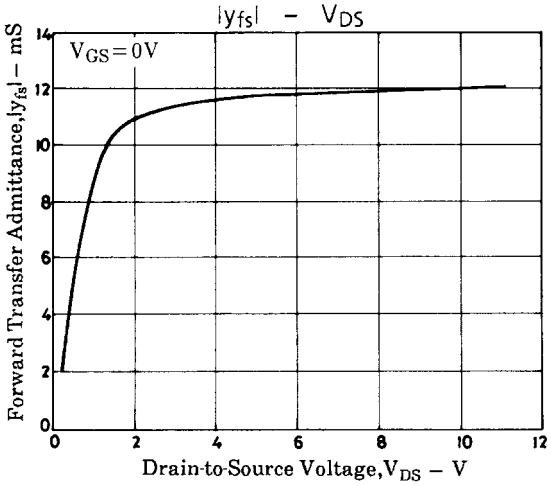




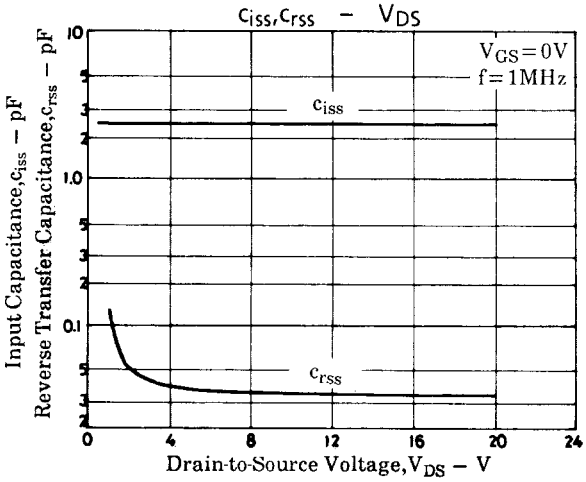
$V_{GS(off)}$ – I_{DSS}



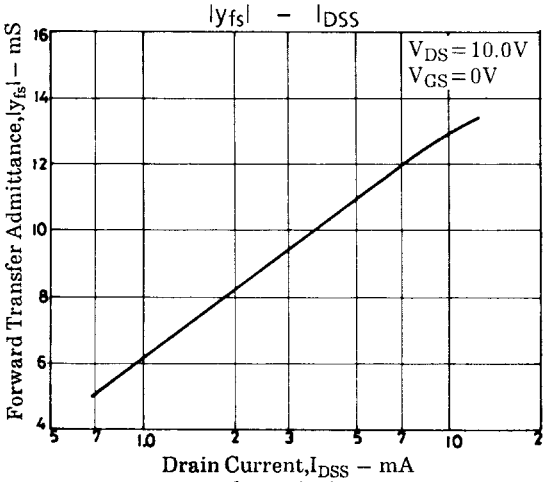
$|y_{fs}|$ – V_{DS}



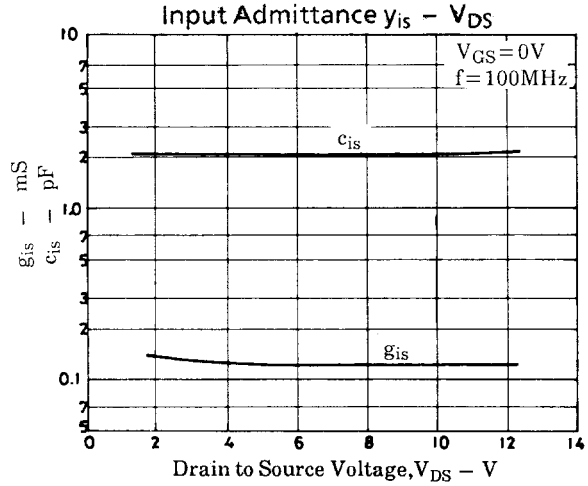
C_{iss}, C_{rss} – V_{DS}



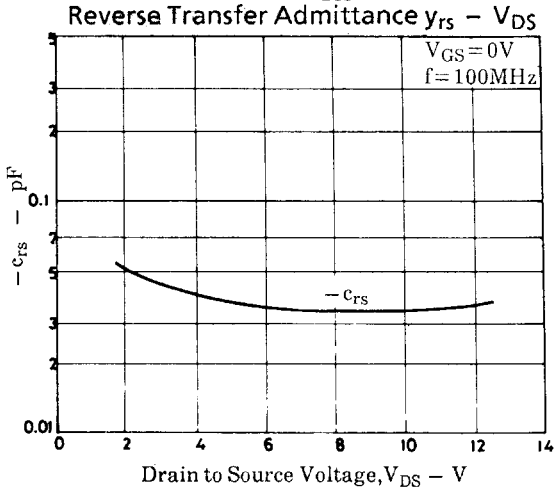
$|y_{fs}|$ – I_{DSS}



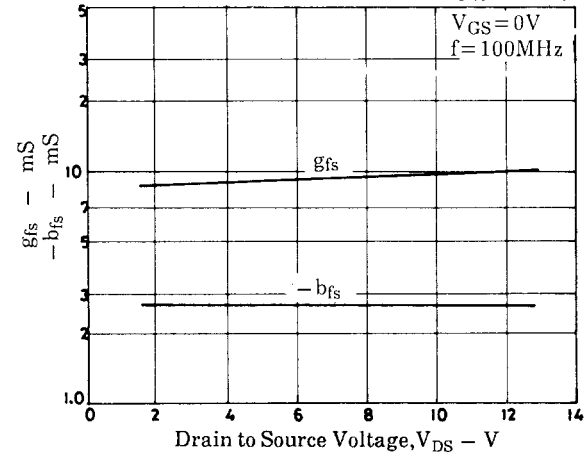
Input Admittance y_{is} – V_{DS}



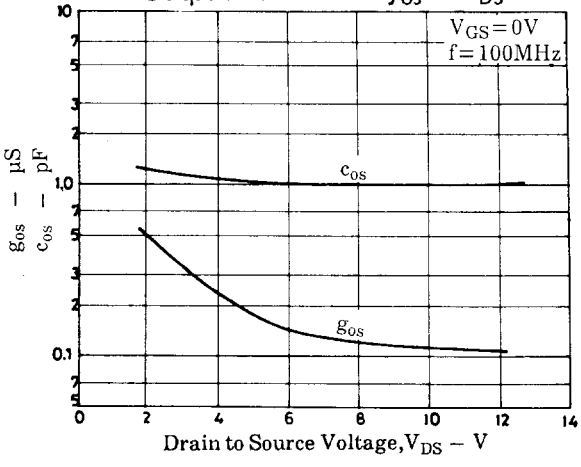
Reverse Transfer Admittance y_{rs} – V_{DS}



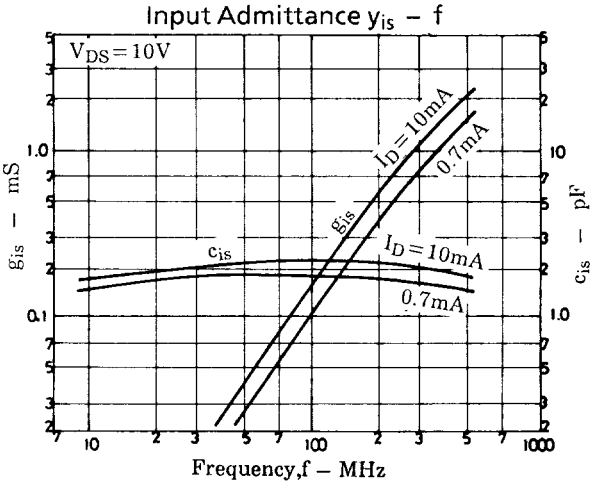
Forward Transfer Admittance y_{fs} – V_{DS}



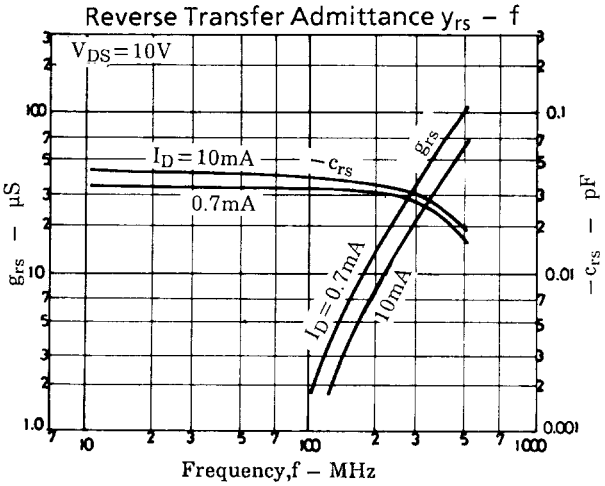
Output Admittance y_{os} – V_{DS}



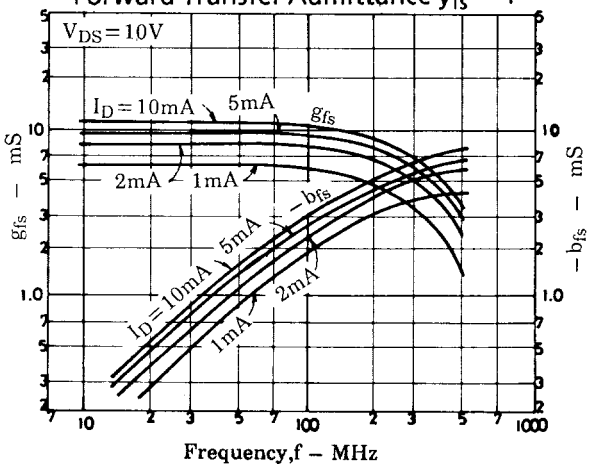
Input Admittance y_{is} – f



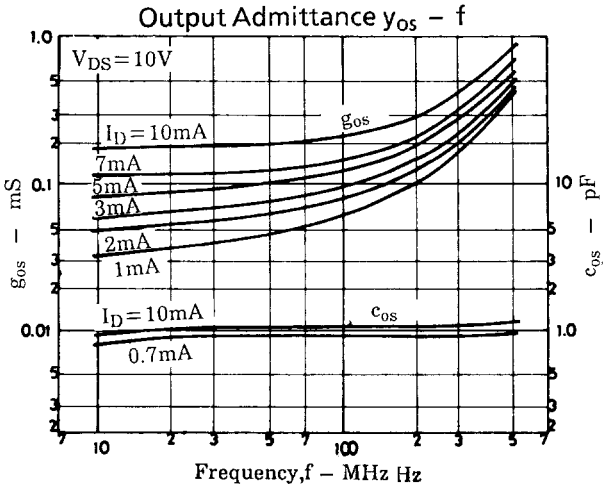
Reverse Transfer Admittance y_{rs} – f



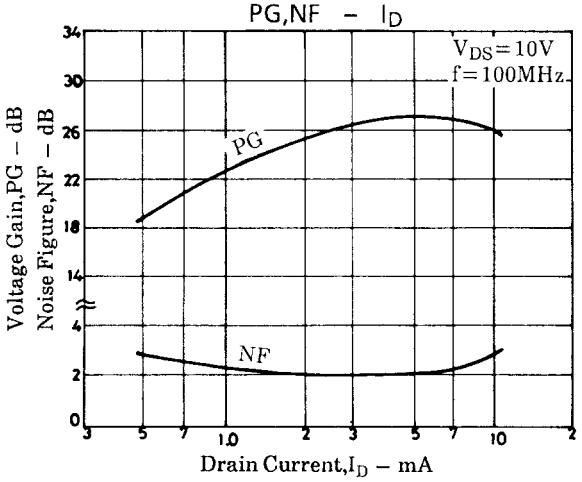
Forward Transfer Admittance y_{fs} – f



Output Admittance y_{os} – f



PG,NF – I_D



P_D – T_a