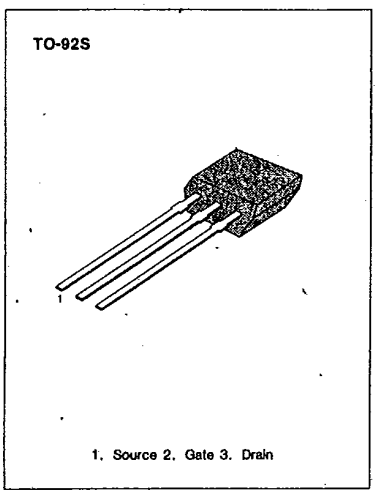
KSK65 Si N-CHANNEL JUNCTION FET

T-29-25

AF IMPEDANCE CONVERTER

- **Built-in Diode Between G and S**
- **Low NV**



ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSO}	12	V
Gate-Drain Voltage	V_{GDO}	12	V
Drain-source Current	I_{DSO}	2	mA
Drain-Gate Current	I_{DGO}	2	mA
Gate-Source Current	I_{GSO}	2	mA
Power Dissipation	P_D	20	mW
Operate Temperature	T_{OPR}	−10∼+70	°C
Storage Temperature	Tstg	−20∼+80	°C

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ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	I_{DSS}	V_{DS}=4.5V, V_{GS}=0, R_S=2.2kΩ±1%	0.04		0.8	mA
Transconductance	gm	V_{DS}=4.5V, V_{GS}=0, R_S=2.2kΩ±1%, f=1kHz	300	500		μS
Noise Voltage	NV	V_{DS}=4.5V, R_S=2.2kΩ±1%, C_G=10pF, A curve			4	μV
Voltage Gain	G_{V1}	V_{DS}=4.5V, R_S=2.2kΩ±1%, C_G=10pF, E_G=100mV, f=70Hz		−10		dB
Voltage Gain	G_{V2}	V_{DS}=12V, R_S=2.2kΩ±1%, C_G=10pF, E_G=100mV, f=70Hz		−9.5		dB
Voltage Gain	G_{V3}	V_{DS}=1V, R_S=2.2kΩ1%, C_G=10pF, E_G=100mV, f=70Hz		−11		dB

I_{DSS}-G_V CLASSIFICATION

Classification	P	Q
I_{DSS} (mA)	0.04-0.2	0.15-0.8
G_{V1} (dB)	>−13	>−12
G_{V2} (dB)	>−12	>−11
$\Delta \lvert G_{V1}-G_{V2} \rvert$(dB)	<3	<3
$\Delta \lvert G_{V1}-G_{V3} \rvert$(dB)	<3	—

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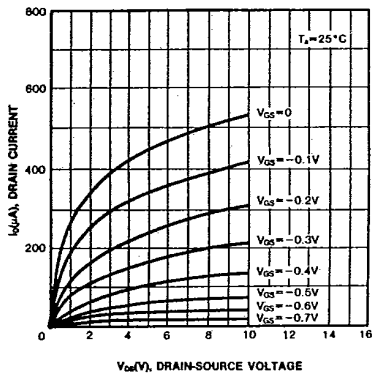
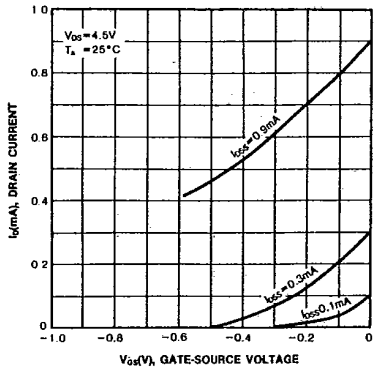
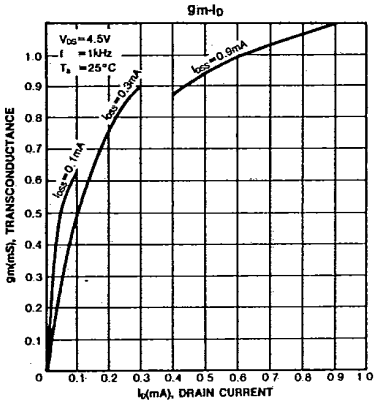
I_D-V_{DS}



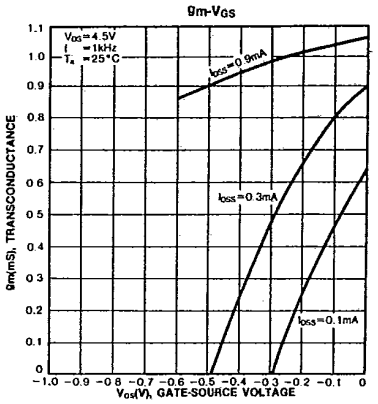
I_D-V_{GS}



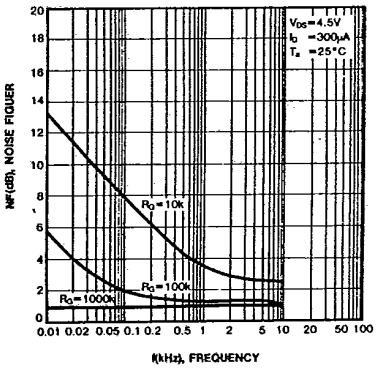
g_m-I_D



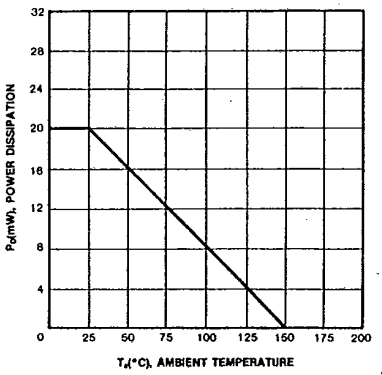
g_m-V_{GS}

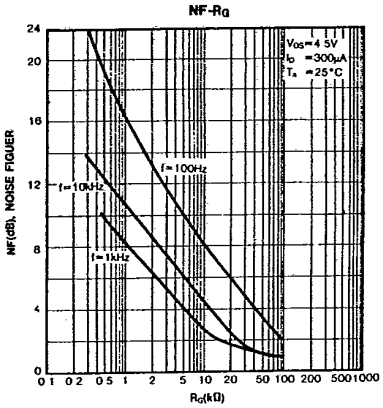


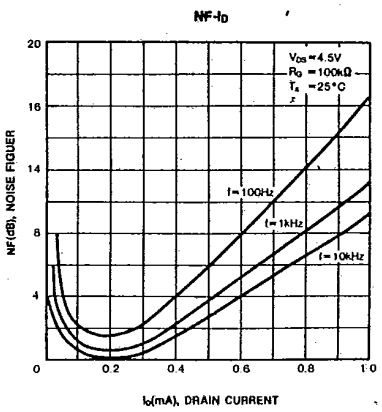
NF-f



P_D-T_A




NF-RG
NF(dB), NOISE FIGUER
RG(kΩ)
VDS=4.5V
ID =300μA
Ta =25°C
f=100Hz
f=10kHz
f=1kHz


NF-ID
NF(dB), NOISE FIGUER
ID(mA), DRAIN CURRENT
VDS=4.5V
RG =100kΩ
Ta =25°C
f=100Hz
f=1kHz
f=10kHz

3