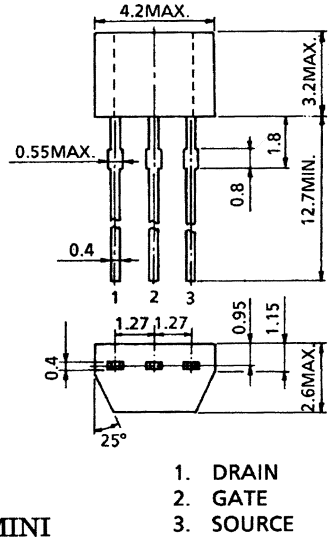
TOSHIBA Field Effect Transistor Silicon N Channel Junction Type

2SK710

High Frequency Amplifier Applications
AM High Frequency Amplifier Applications
Audio Frequency Amplifier Applications

- High $|Y_{fs}|$: $|Y_{fs}| = 25$ mS (typ.)
- Low C_{iss}: $C_{iss} = 7.5$ pF (typ.)
- Low noise

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	2-4E1C

Weight: 0.13 g (typ.)

Maximum Ratings (Ta = 25°C)

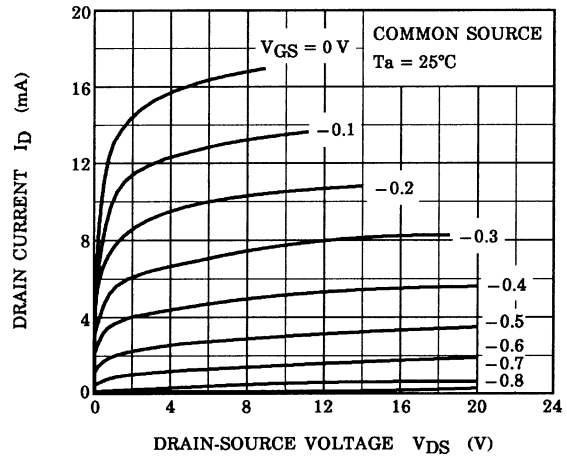
Characteristics	Symbol	Rating	Unit
Gate-drain voltage	V_{GDS}	−20	V
Gate current	I_G	10	mA
Drain power dissipation	P_D	200	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

Electrical Characteristics (Ta = 25°C)

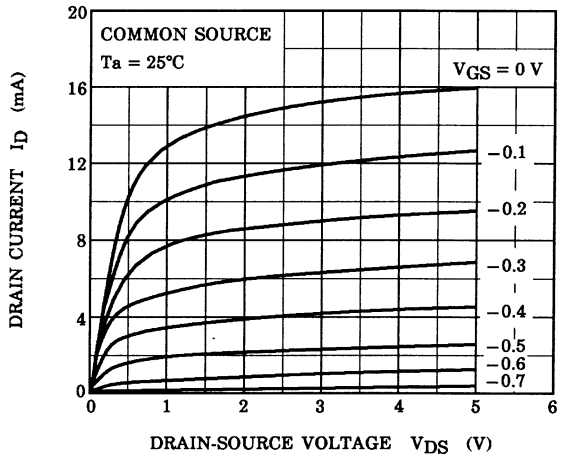
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I_{GSS}	V_{GS} = −15 V, V_{DS} = 0	—	—	−1.0	nA
Gate-drain breakdown voltage	$V_{(BR)\ GDS}$	V_{DS} = 0, I_G = −100 μA	−20	—	—	V
Drain current	I_{DSS} (Note)	V_{DS} = 5 V, V_{GS} = 0	6	—	32	mA
Gate-source cut-off voltage	$V_{GS\ (OFF)}$	V_{DS} = 5 V, I_D = 1 μA	—	—	−2.5	V
Forward transfer admittance	$\|Y_{fs}\|$	V_{DS} = 5 V, V_{GS} = 0, f = 1 kHz	15	25	—	mS
Input capacitance	C_{iss}	V_{DS} = 5 V, V_{GS} = 0, f = 1 MHz	—	7.5	10	pF
Reverse transfer capacitance	C_{rss}	V_{DG} = 5 V, I_D = 0, f = 1 MHz	—	2	3	pF
Noise figure	NF	V_{DS} = 5 V, I_D = 1 mA R_g = 1 kΩ, f = 1 kHz	—	0.5	3	dB

Note: I_{DSS} classification GR: 6~12 mA, BL: 10~20 mA, V: 16~32 mA

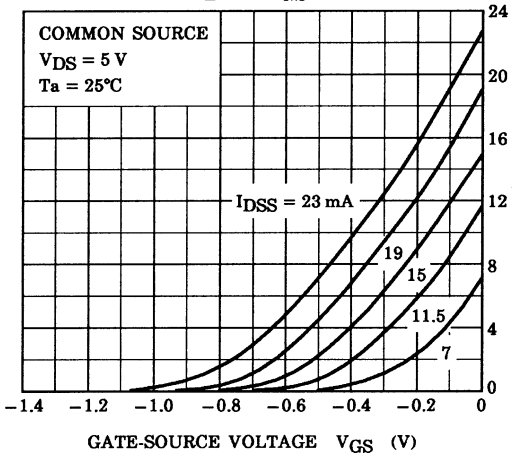
$I_D - V_{DS}$



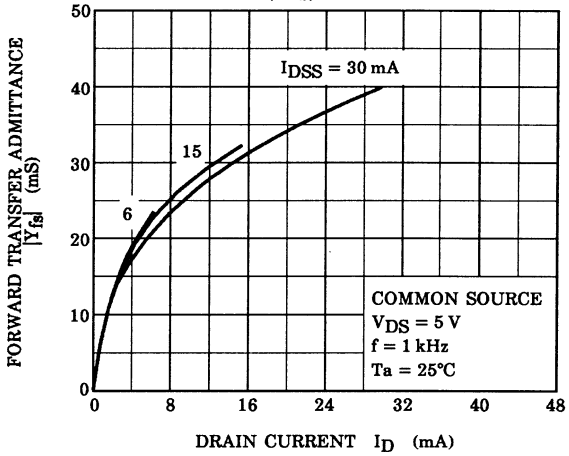
$I_D - V_{DS}$ (LOW VOLTAGE REGION)



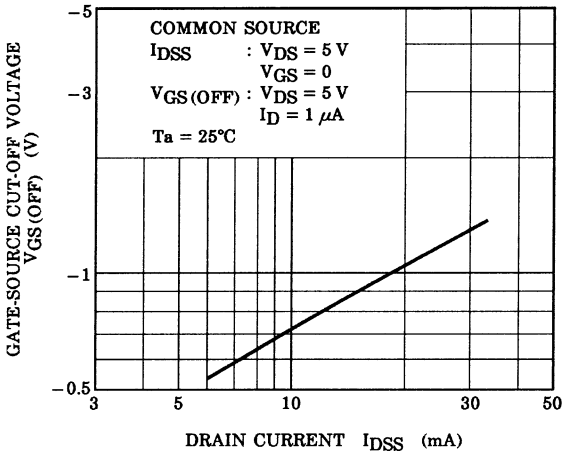
$I_D - V_{GS}$



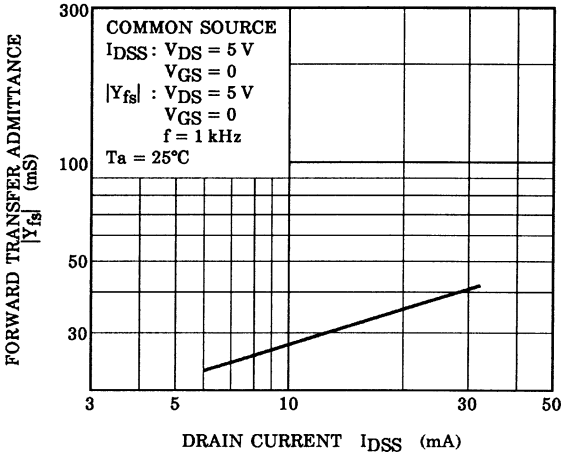
$|Y_{fs}| - I_D$



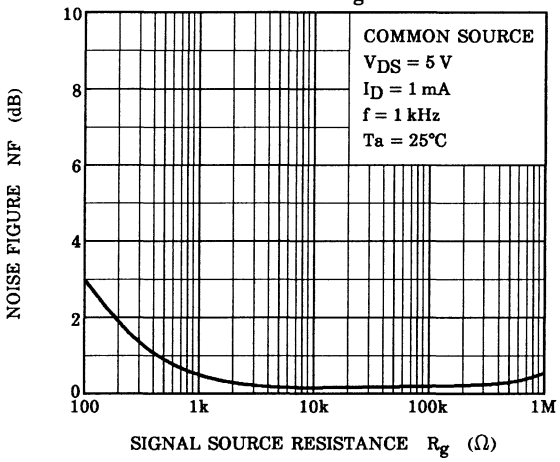
$V_{GS(OFF)} - I_{DSS}$



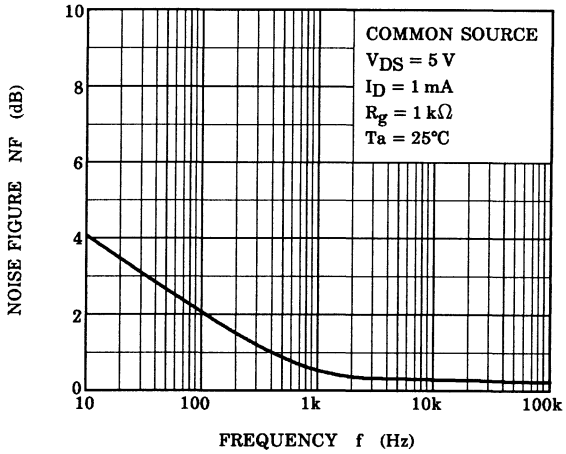
$|Y_{fs}| - I_{DSS}$



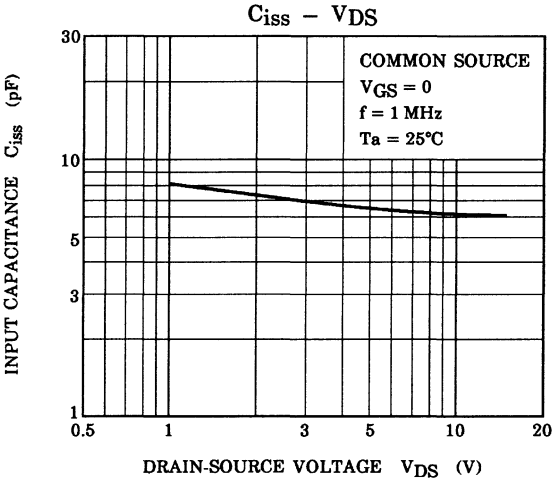
NF – R_g



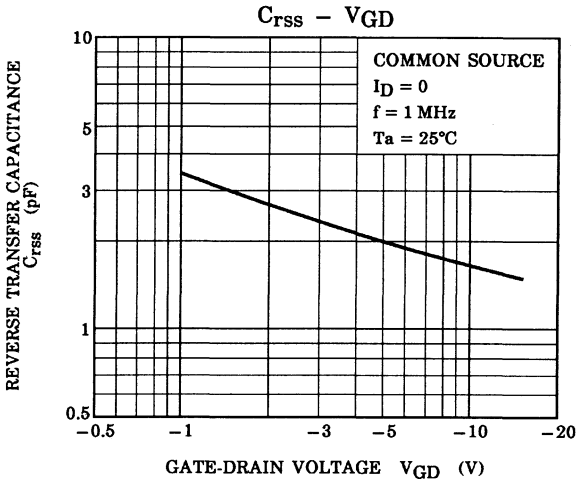
NF – f



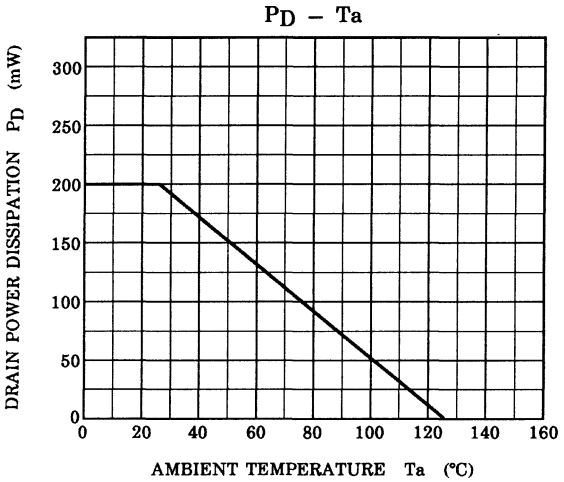
C_{iss} – V_{DS}



C_{rss} – V_{GD}



P_D – Ta



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