

TOSHIBA Field Effect Transistor Silicon N Channel Junction Type

2SK709

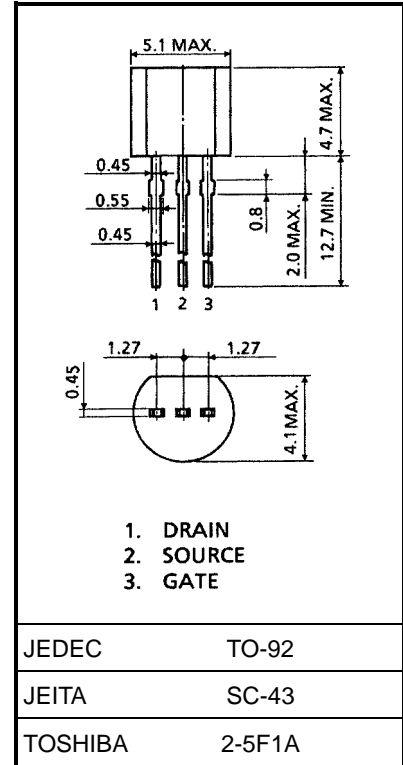
High Frequency Amplifier Applications
 AM High Frequency Amplifier Applications
 Audio Frequency Amplifier Applications

Unit: mm

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

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	300	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55~125	°C

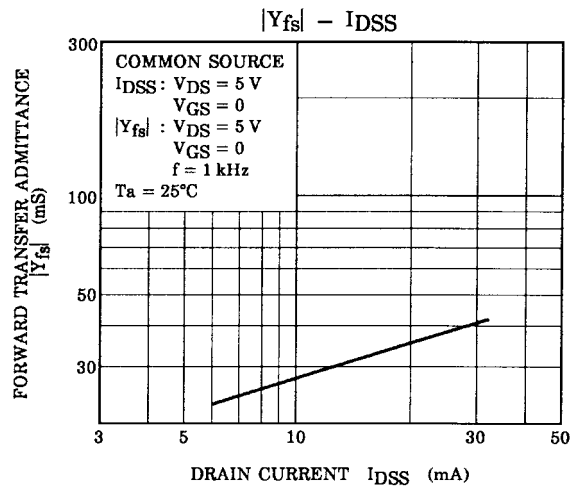
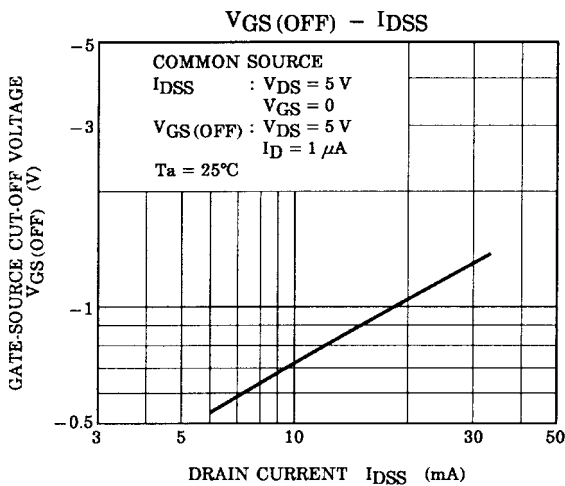
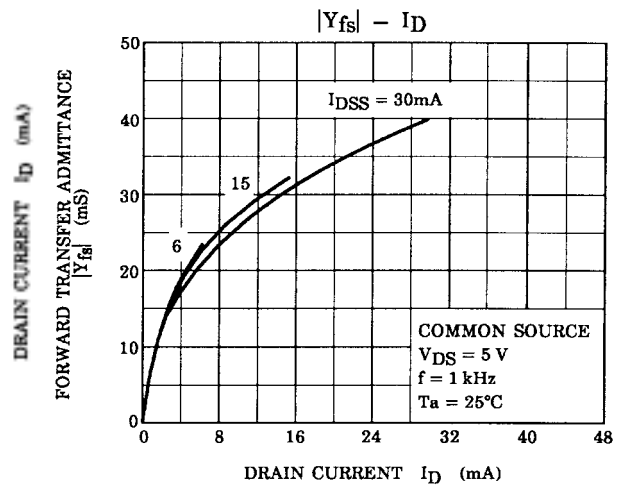
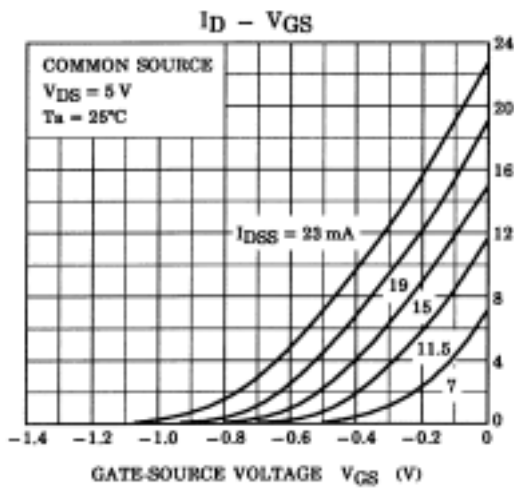
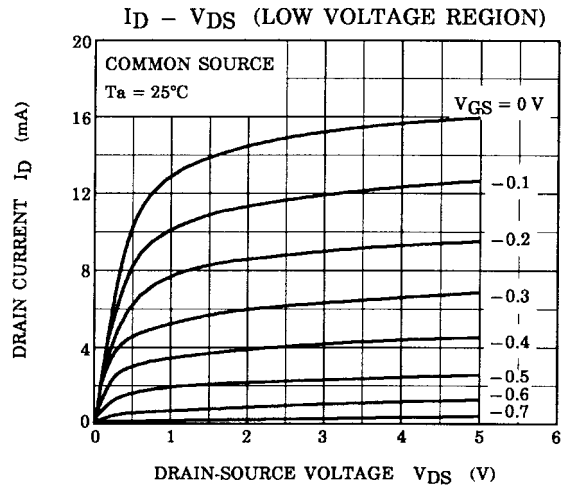
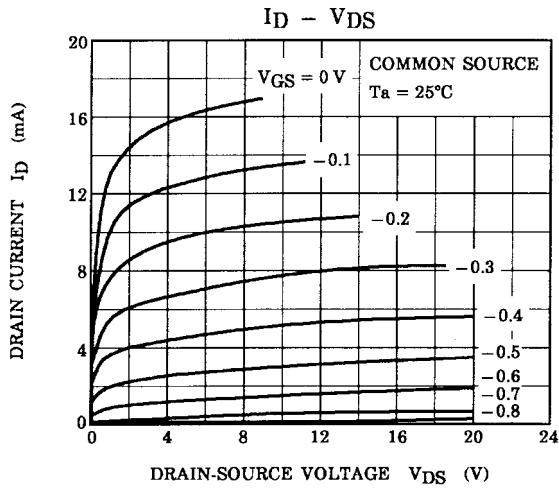


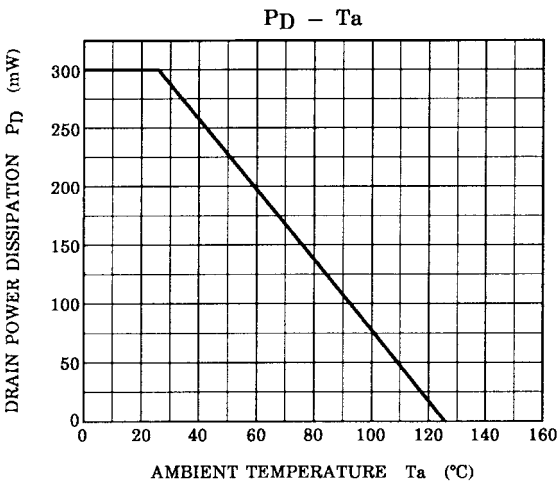
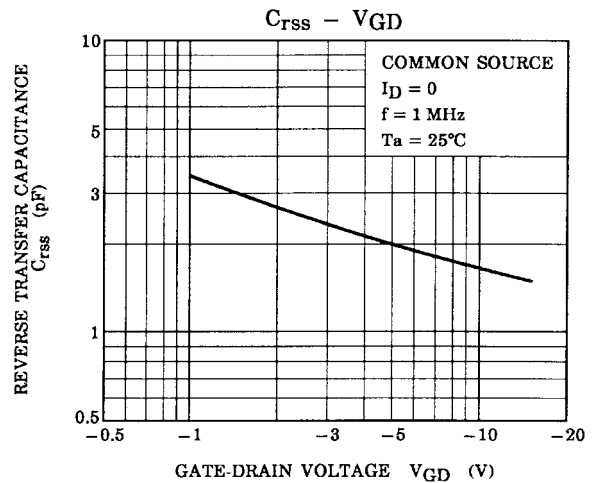
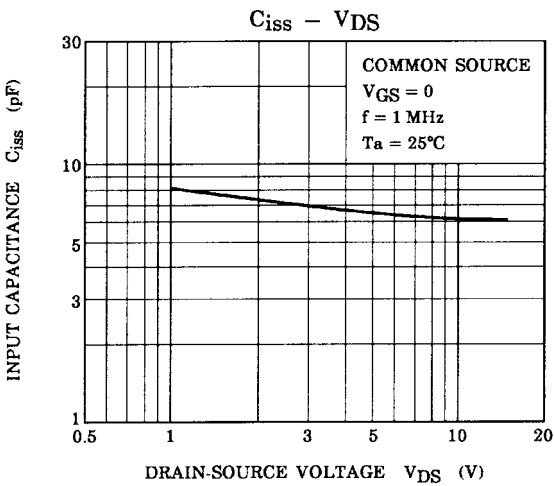
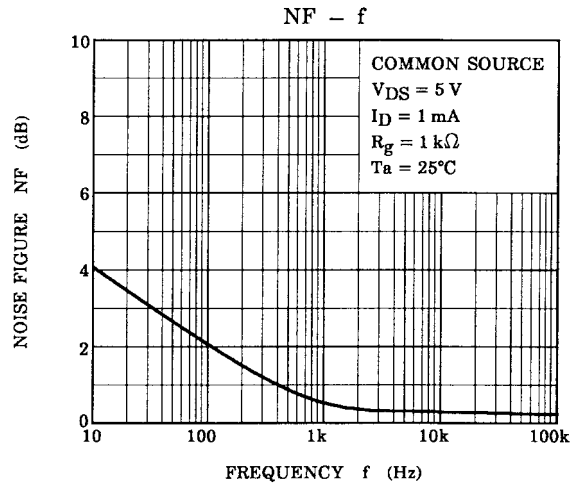
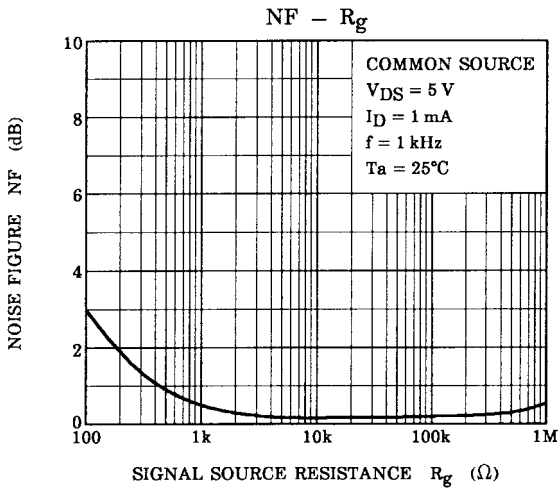
Weight: 0.21 g (typ.)

Electrical Characteristics (Ta = 25°C)

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

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





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