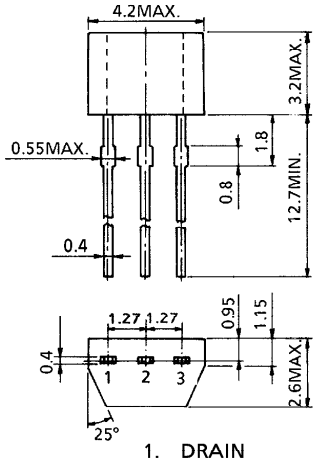
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK370

FOR LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- Suitable for Use as First Stage for Equalizer and MC Head Amplifiers.
- High $|Y_{fs}|$: $|Y_{fs}|$ = 22ms (Typ.) (V_{DS} = 10V, V_{GS} = 0, I_{DSS} = 3mA)
- High Breakdown Voltage : V_{GDS} = −40V
- High Input Impedance : I_{GSS} = −1nA (Max.) (V_{GS} = −30V)
- Complementary to 2SJ108
- Small Package



1. DRAIN
2. GATE
3. SOURCE

JEDEC	—
EIAJ	—
TOSHIBA	2-4E1C

Weight : 0.13g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V_{GDS}	−40	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)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	I_{GSS}	V_{GS} = −30V, V_{DS} = 0	—	—	−1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	V_{DS} = 0, I_G = −100μA	−40	—	—	V
Drain Current	I_{DSS} (Note)	V_{DS} = 10V, V_{GS} = 0	2.6	—	20	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	V_{DS} = 10V, I_D = 0.1μA	−0.2	—	−1.5	V
Forward Transfer Admittance	$\|Y_{fs}\|$	V_{DS} = 10V, V_{GS} = 0, f = 1kHz, I_{DSS} = 3mA	8	22	—	mS
Input Capacitance	C_{iss}	V_{DS} = 10V, V_{GS} = 0, f = 1MHz	—	30	—	pF
Reverse Transfer Capacitance	C_{rss}	V_{DG} = 10V, I_D = 0, f = 1MHz	—	6	—	pF
Noise Figure	NF (1)	V_{DS} = 10V, I_D = 1.0mA, R_G = 1kΩ, f = 10Hz	—	1.0	10	dB
	NF (2)	V_{DS} = 10V, I_D = 1.0mA, R_G = 1kΩ, f = 1kHz	—	0.5	2	

Note : I_{DSS} Classification GR : 2.6~6.5mA, BL : 6.0~12mA, V : 10~20mA

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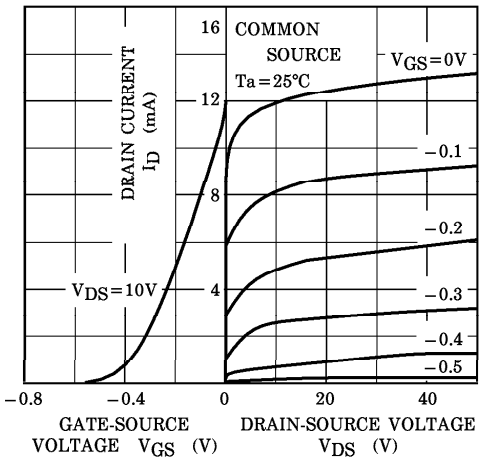
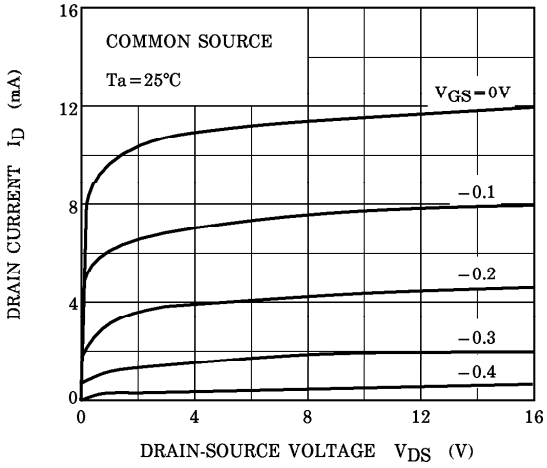
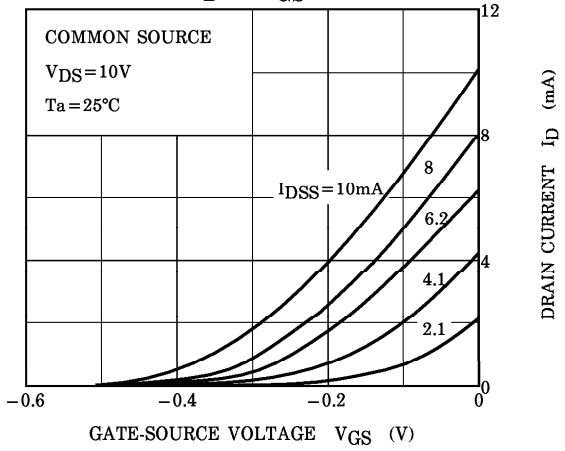
STATIC CHARACTERISTICS



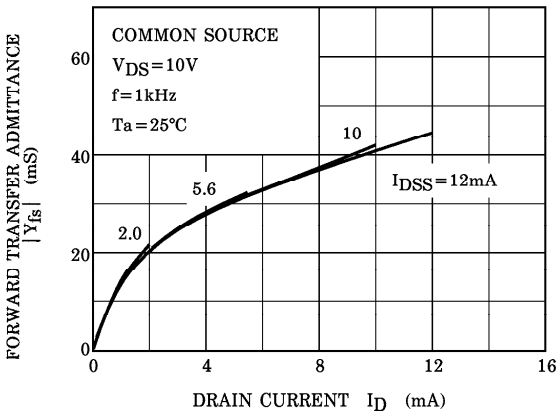
I_D – V_{DS} (LOW VOLTAGE REGION)



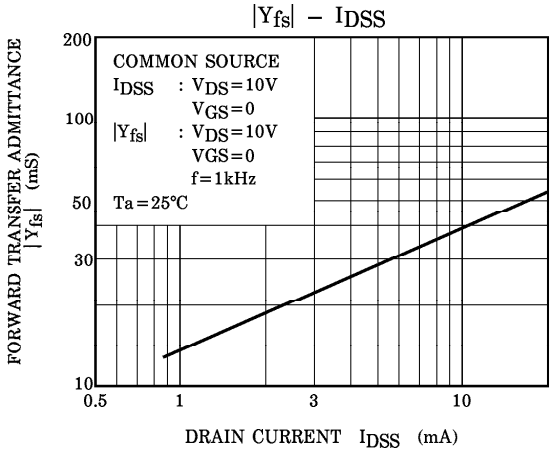
I_D – V_{GS}



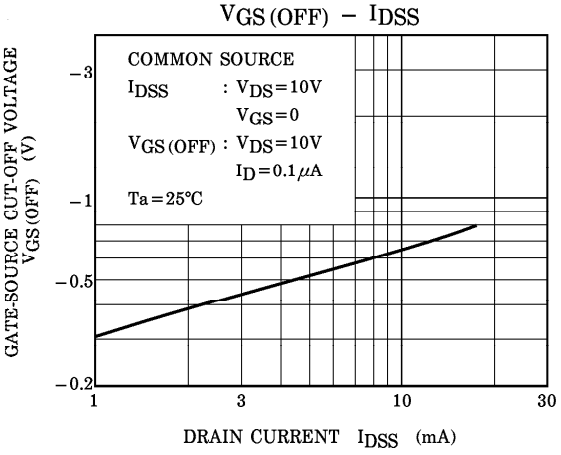
$|Y_{fs}|$ – I_D



$|Y_{fs}|$ – I_{DSS}



$V_{GS(OFF)}$ – I_{DSS}



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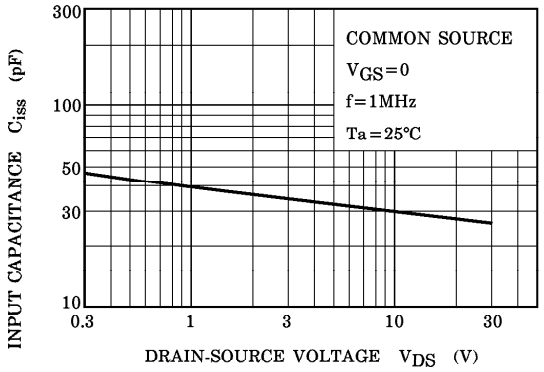
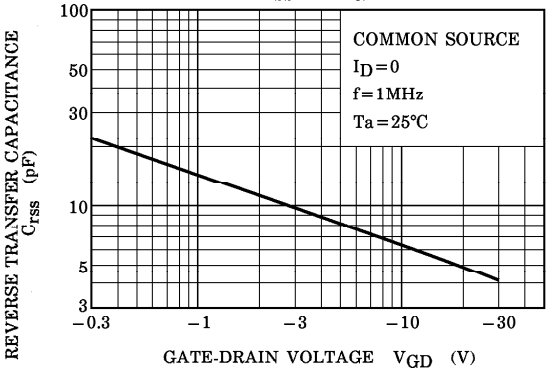
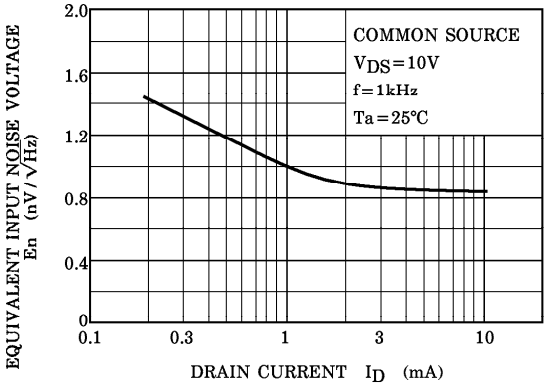
C_{iss} – V_{DS}



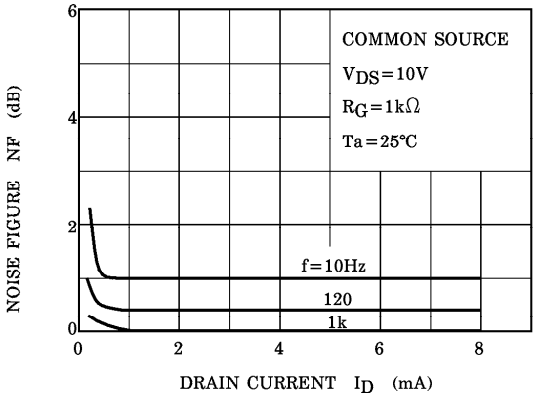
C_{rss} – V_{GD}



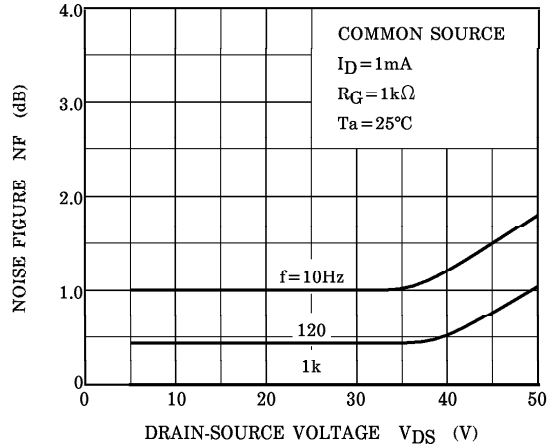
E_n – I_D



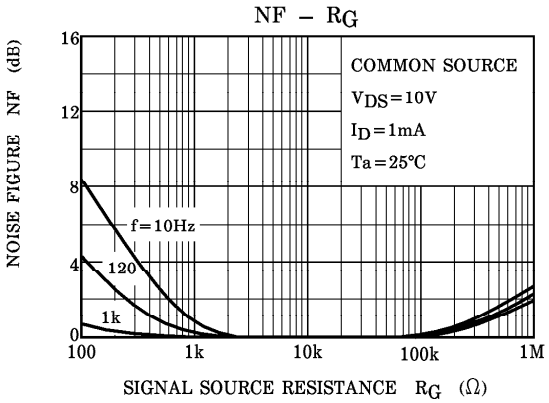
NF – I_D



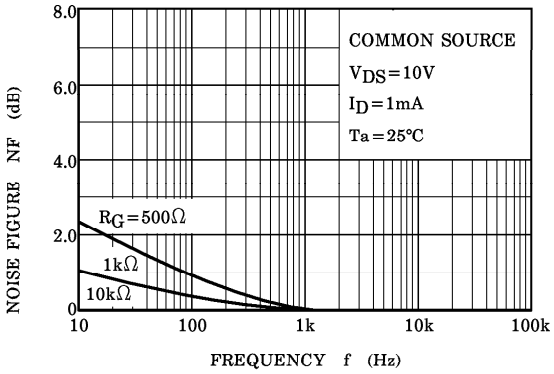
NF – V_{DS}



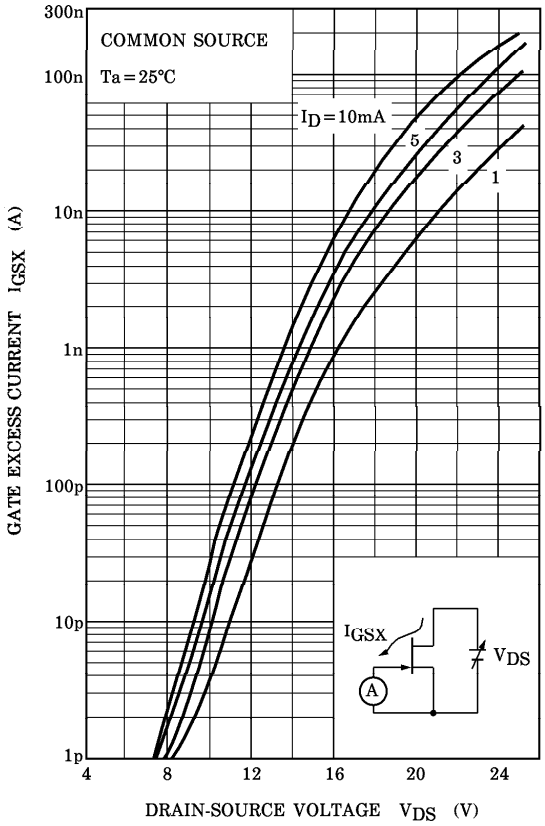
NF – R_G



NF – f



I_{GSX} – V_{DS}



P_D – Ta