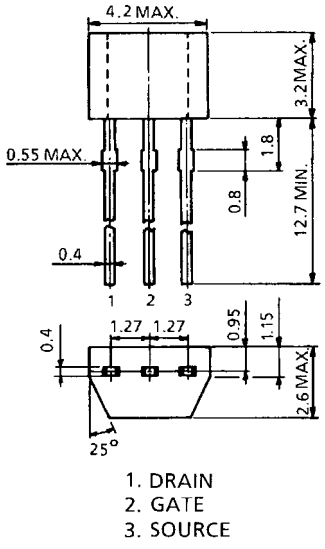
TOSHIBA Field Effect Transistor Silicon P Channel Junction Type

2SJ108

Low Noise Audio Amplifier Applications

- Recommended for first stages of EQ amplifiers and MC head amplifiers.
- High $|Y_{fs}|$: $|Y_{fs}| = 22$ mS (typ.)
  ($V_{DS} = -10$ V, $V_{GS} = 0$, $I_{DSS} = -3$ mA)
- Low noise: En = 0.95 nV/Hz$^{1/2}$ (typ.)
  ($V_{DS} = -10$ V, $I_D = -1$ mA, f = 1 kHz)
- High input impedance: $I_{GSS} = 1.0$ nA (max) ($V_{GS} = 25$ V)
- Complementary to 2SK370
- Small package

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	2-4E1C

Weight: 0.13 g (typ.)

Maximum Ratings (Ta = 25°C)

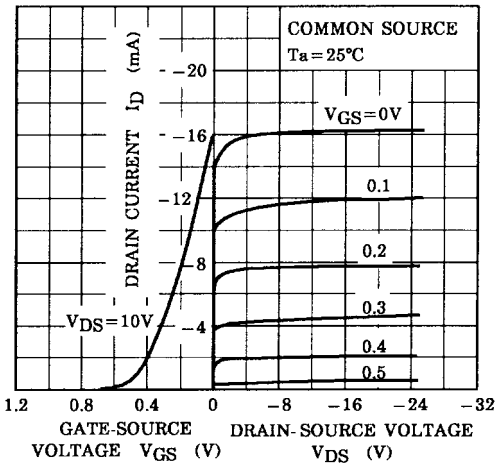
Characteristics	Symbol	Rating	Unit
Gate-drain voltage	V_{GDS}	25	V
Gate current	I_G	−10	mA
Drain power dissipation	P_D	200	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

Electrical Characteristics (Ta = 25°C)

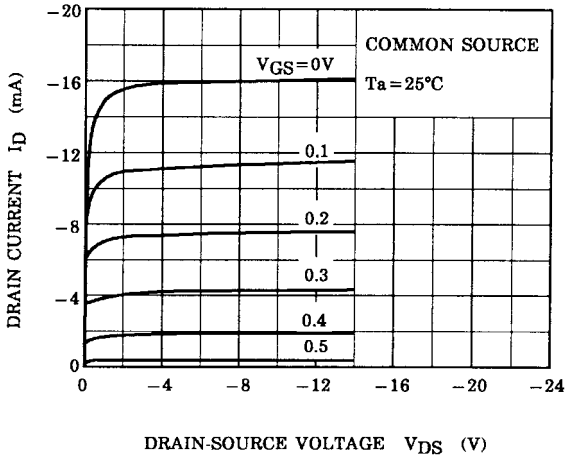
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate cut-off current	I_{GSS}	$V_{GS} = 25$ V, $V_{DS} = 0$	—	—	1.0	nA
Gate-drain breakdown voltage	$V_{(BR)\ GDS}$	$V_{DS} = 0$, $I_G = 100$ μA	25	—	—	V
Drain current	I_{DSS} (Note)	$V_{DS} = -10$ V, $V_{GS} = 0$	−2.6	—	−20	mA
Gate-source cut-off voltage	$V_{GS\ (OFF)}$	$V_{DS} = -10$ V, $I_D = -0.1$ μA	0.15	—	2.0	V
Forward transfer admittance	$\|Y_{fs}\|$	$V_{DS} = -10$ V, $V_{GS} = 0$, f = 1 kHz	8	22	—	mS
Input capacitance	C_{iss}	$V_{DS} = -10$ V, $V_{GS} = 0$, f = 1 MHz	—	105	—	pF
Reverse transfer capacitance	C_{rss}	$V_{GD} = 10$ V, $I_D = 0$, f = 1 MHz	—	32	—	pF
Noise figure	NF (1)	$V_{DS} = -10$ V, $I_D = -1$ mA, $R_G = 1$ kΩ, f = 10 Hz	—	1.0	10	dB
	NF (2)	$V_{DS} = -10$ V, $I_D = -1$ mA, $R_G = 1$ kΩ, f = 1 kHz	—	0.5	2	

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

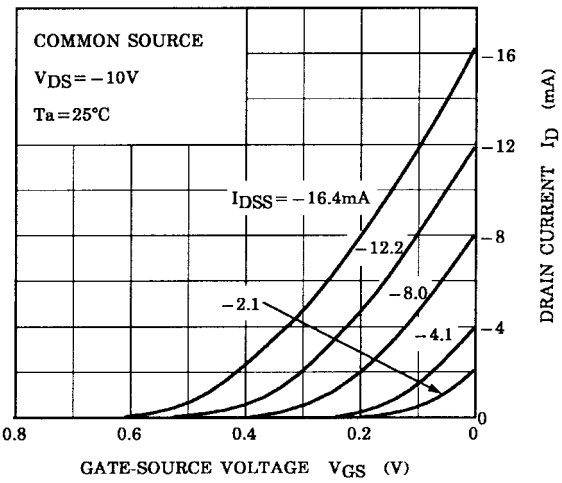
STATIC CHARACTERISTICS



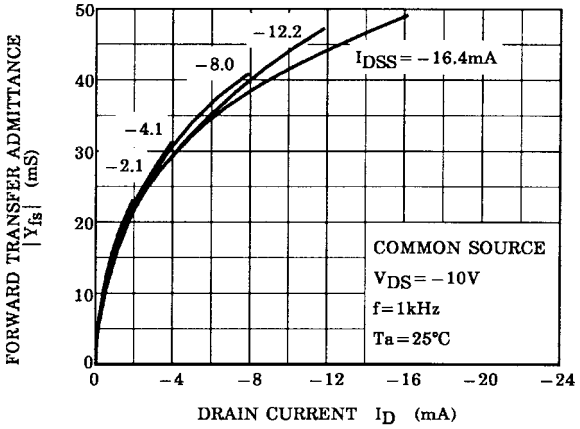
I_D – V_{DS} (LOW VOLTAGE REGION)



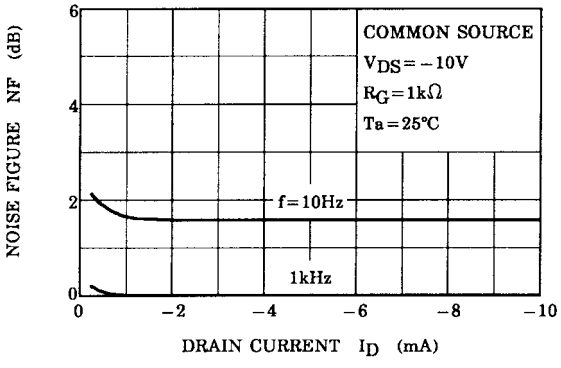
I_D – V_{GS}



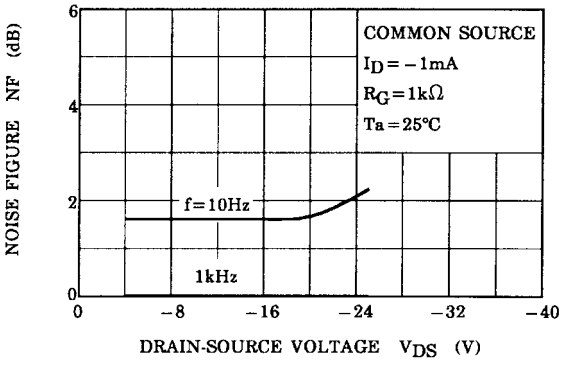
$|Y_{fs}|$ – I_D



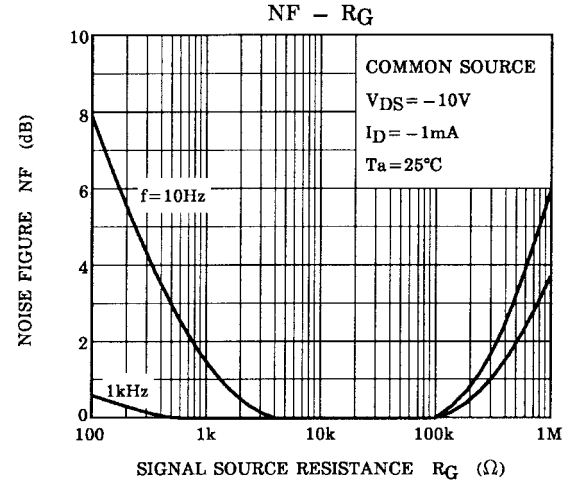
NF – I_D



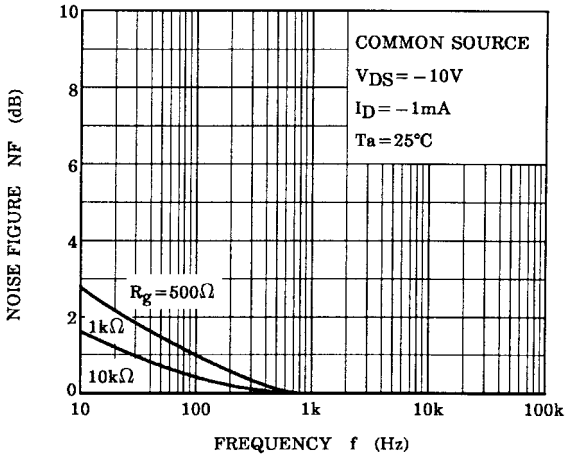
NF – V_{DS}



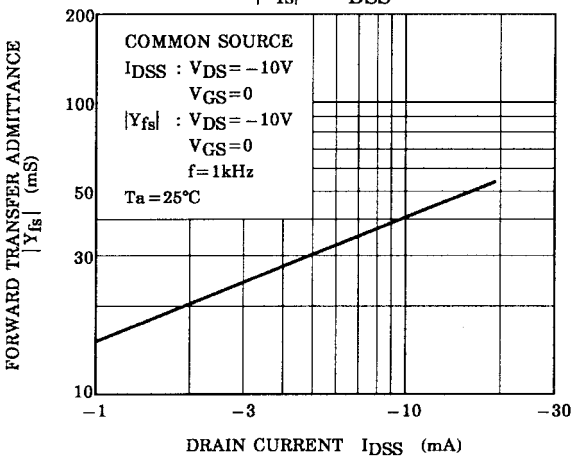
NF – R_G



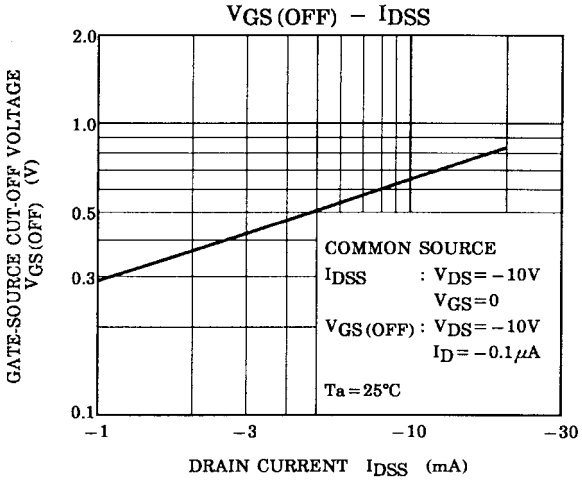
NF – f



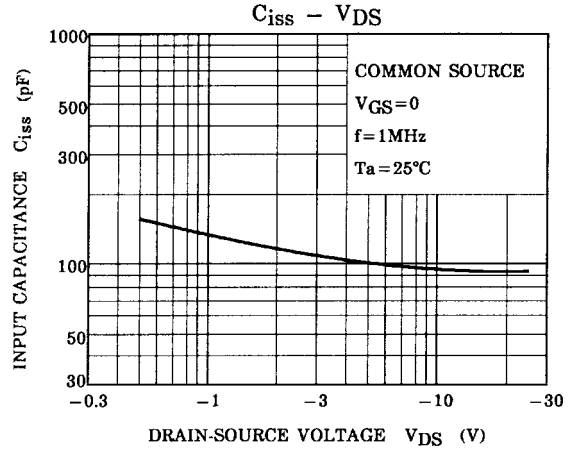
$|Y_{fs}|$ – I_{DSS}



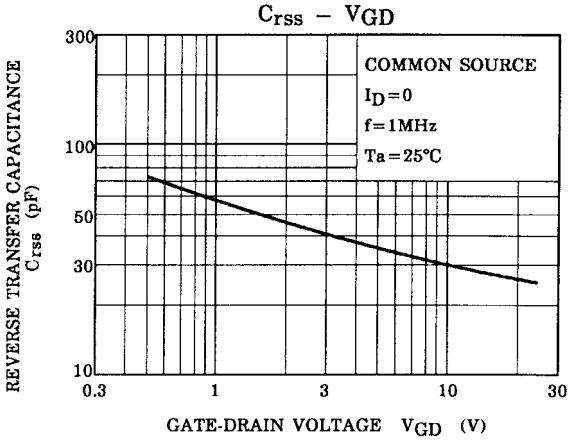
$V_{GS(OFF)}$ – I_{DSS}



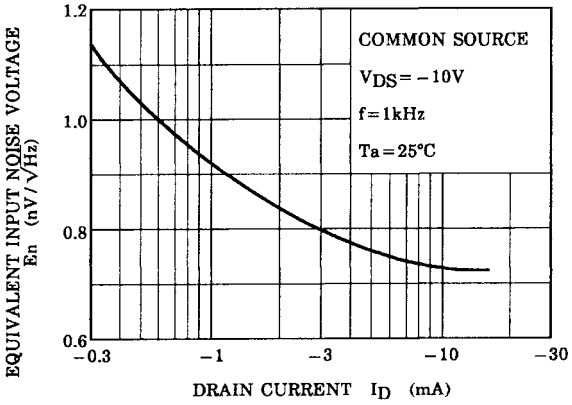
C_{iss} – V_{DS}



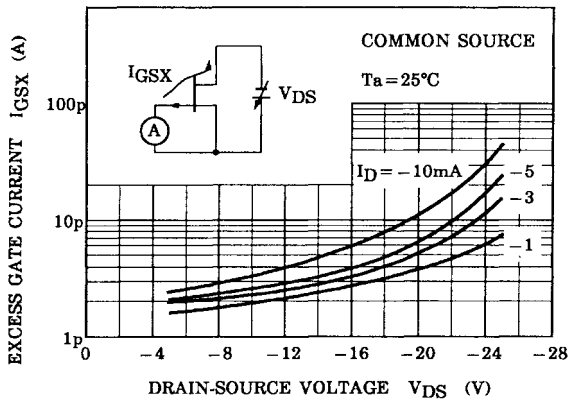
C_{rss} – V_{GD}



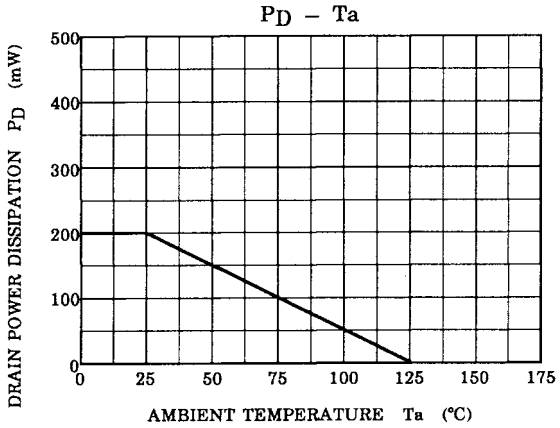
E_n – I_D



I_{GSX} – V_{DS}



P_D – Ta



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