

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK370

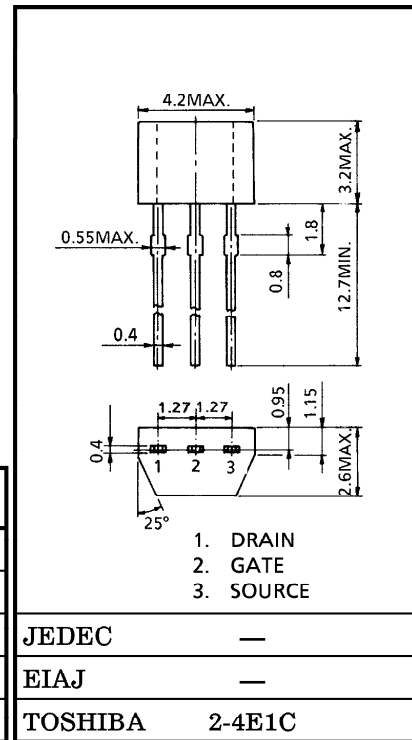
FOR LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

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

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| 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 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55~125 | $^\circ\text{C}$ |



Weight : 0.13g

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

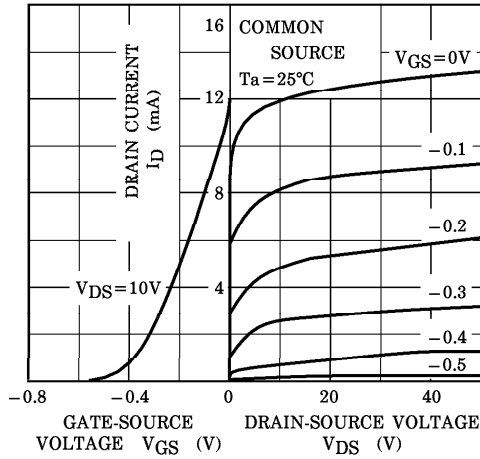
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|------------------------------|------------------|--|------|------|------|------|
| Gate Cut-off Current | I_{GSS} | $V_{GS} = -30\text{V}$, $V_{DS} = 0$ | — | — | -1.0 | nA |
| Gate-Drain Breakdown Voltage | $V_{(BR)GDS}$ | $V_{DS}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

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

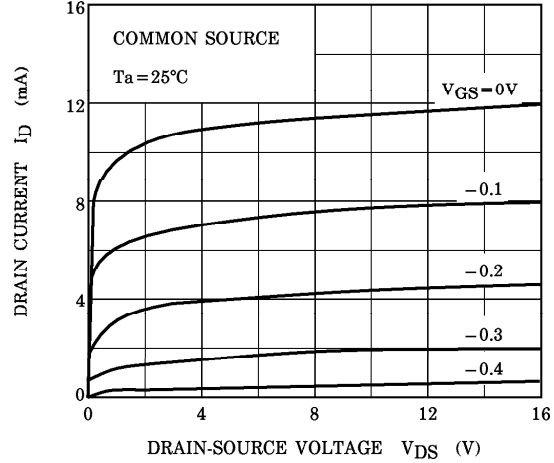
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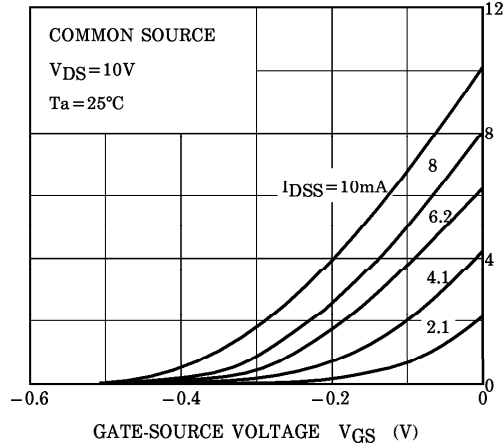
STATIC CHARACTERISTICS



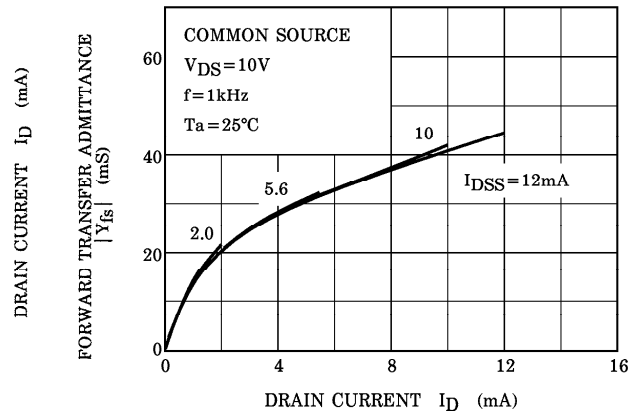
ID - VDS (LOW VOLTAGE REGION)



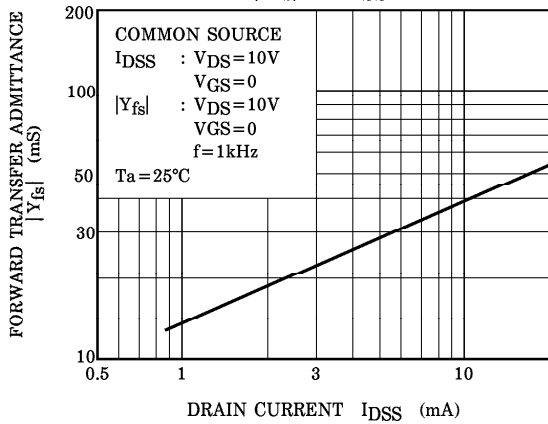
ID - VGS



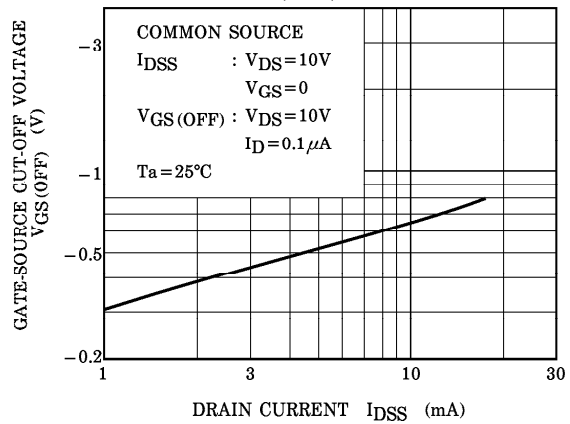
|Yfs| - ID



|Yfs| - IDSS



VGS(OFF) - IDSS



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