

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N-CHANNEL MOS TYPE

**2SK1771**

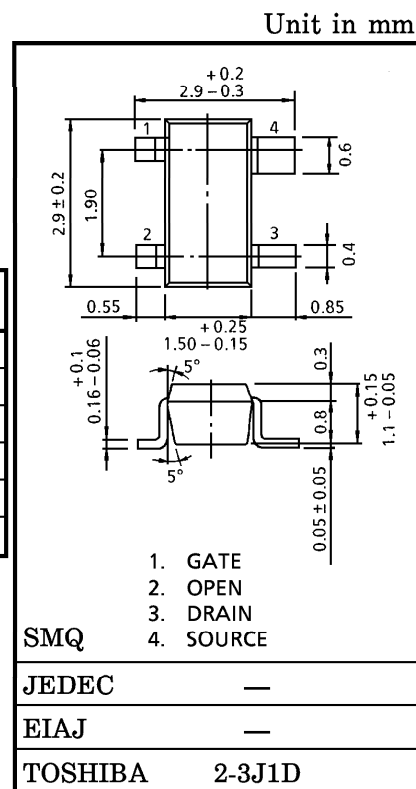
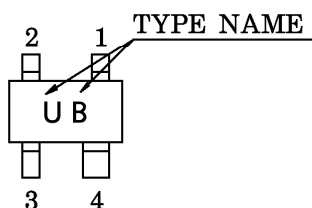
FM TUNER, VHF RF AMPLIFIER APPLICATIONS

- Superior Inter Modulation Performance.
- Low Noise Figure : NF=1.0dB (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC            | SYMBOL    | RATING  | UNIT |
|---------------------------|-----------|---------|------|
| Drain-Source Voltage      | $V_{DS}$  | 12.5    | V    |
| Gate-Source Voltage       | $V_{GS}$  | $\pm 8$ | V    |
| Drain Current             | $I_D$     | 30      | mA   |
| Drain Power Dissipation   | $P_D$     | 150     | mW   |
| Channel Temperature       | $T_{ch}$  | 125     | °C   |
| Storage Temperature Range | $T_{stg}$ | -55~125 | °C   |

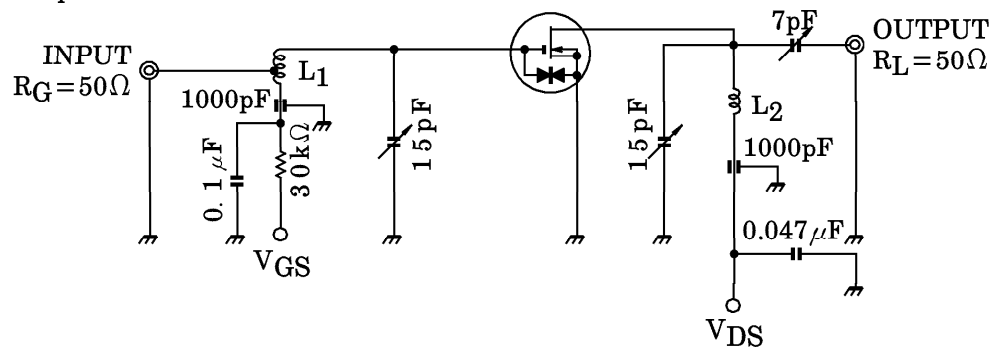
Marking



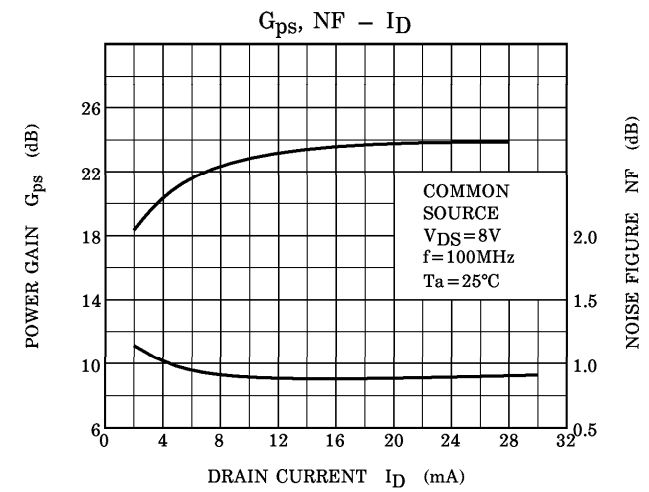
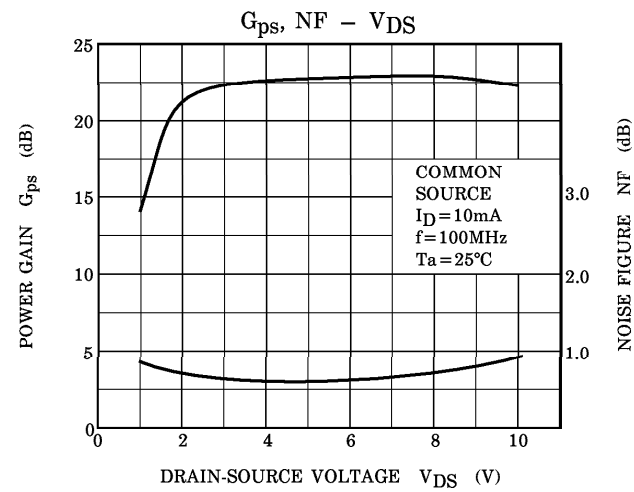
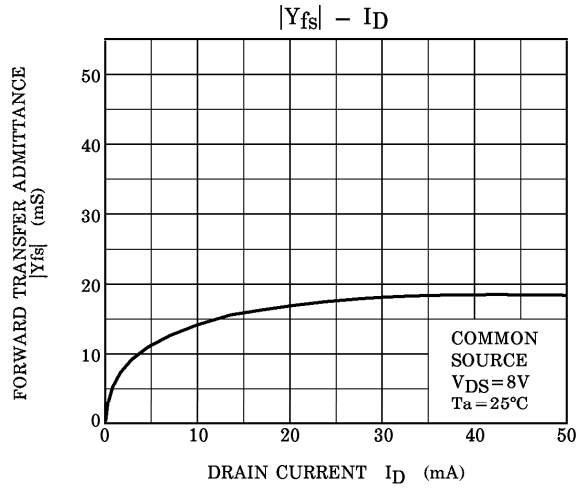
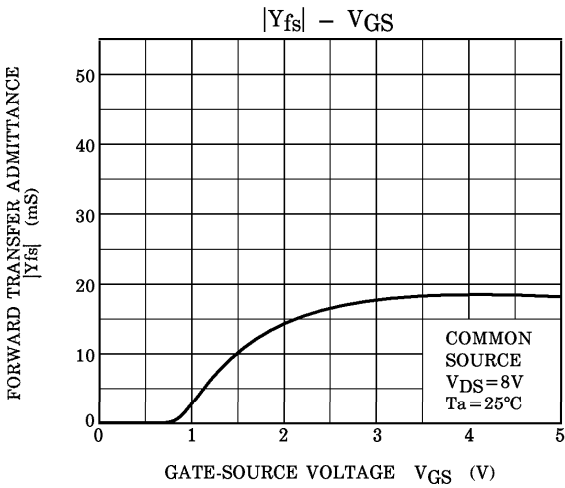
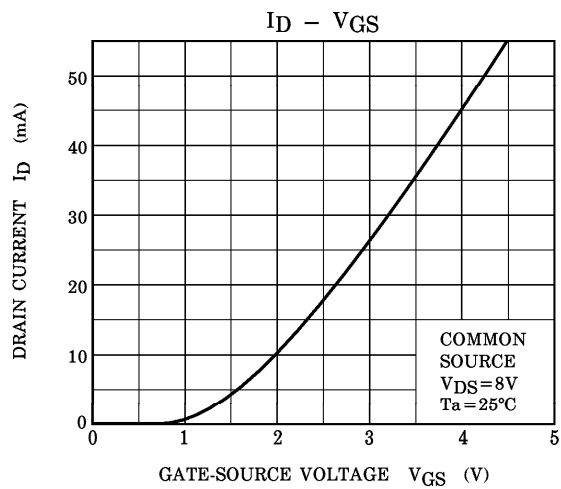
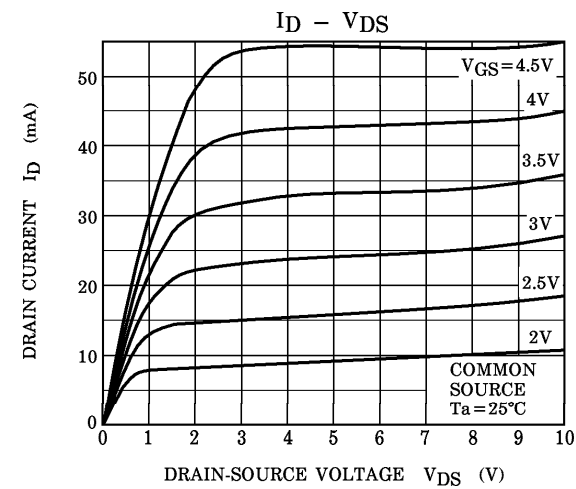
Weight : 0.013g

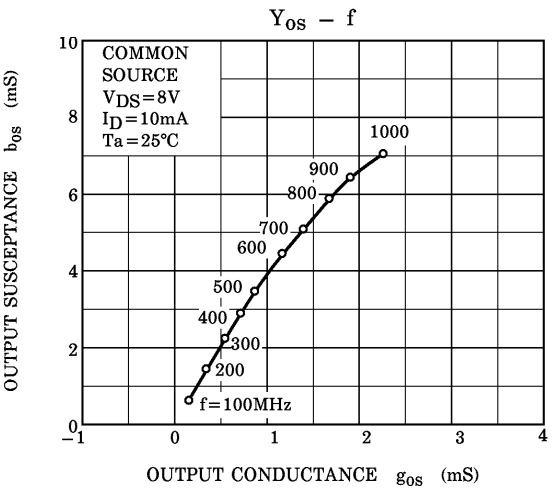
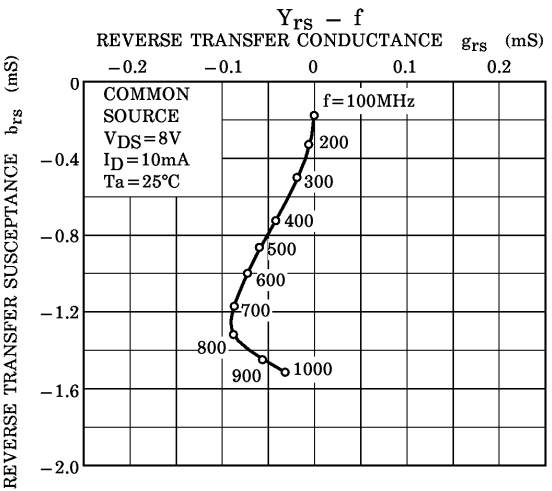
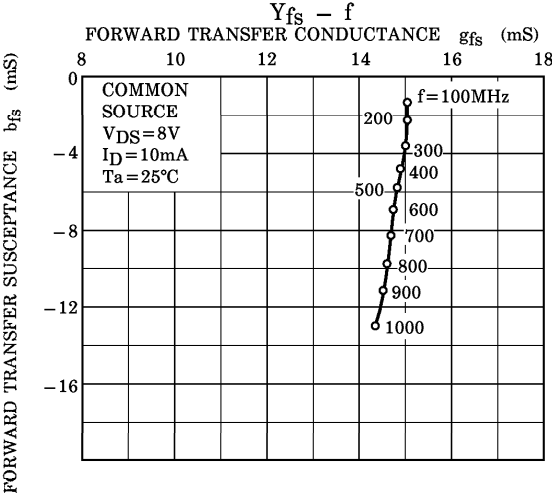
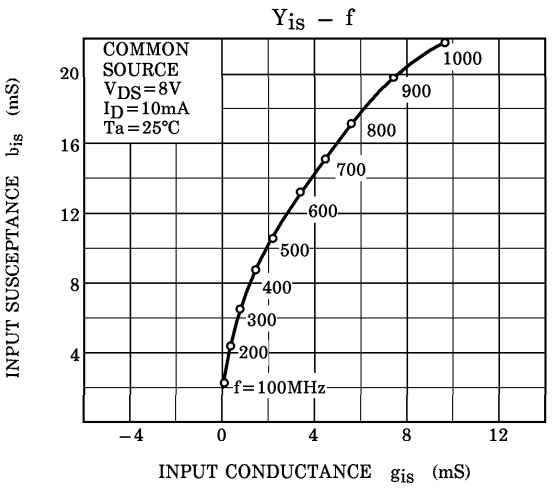
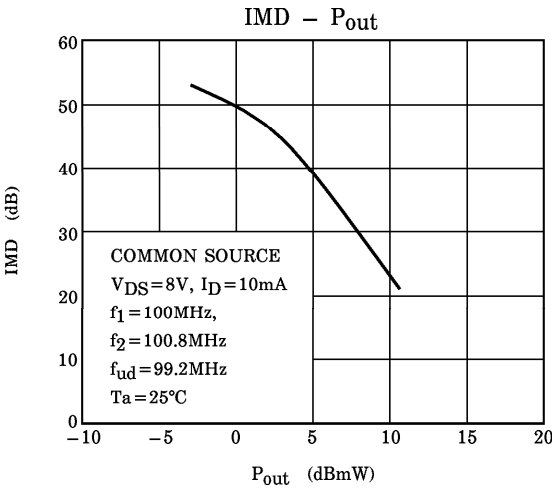
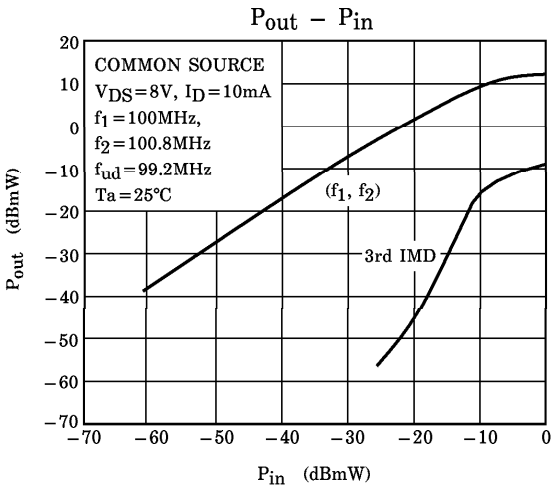
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

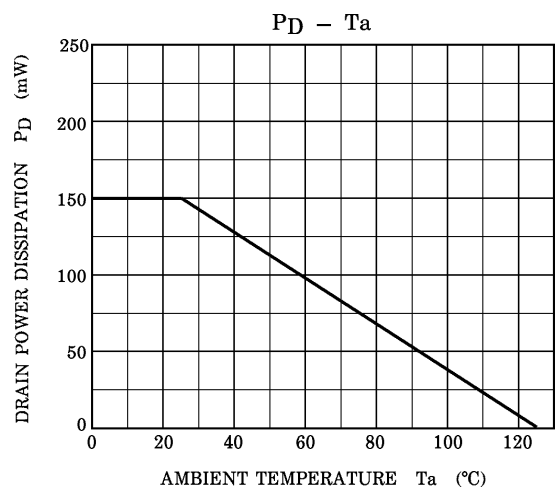
| CHARACTERISTIC               | SYMBOL        | TEST CONDITION                | MIN. | TYP. | MAX.     | UNIT |
|------------------------------|---------------|-------------------------------|------|------|----------|------|
| Gate Leakage Current         | $I_{GSS}$     | $V_{DS}=0, V_{GS}=\pm 6V$     | —    | —    | $\pm 50$ | nA   |
| Drain-Source Voltage         | $V_{(BR)DSX}$ | $V_{GS}=-4V, I_D=100\mu A$    | 12.5 | —    | —        | V    |
| Drain Current                | $I_{DSS}$     | $V_{DS}=8V, V_{GS}=0$         | 0    | —    | 0.1      | mA   |
| Gate-Source Cut-off Voltage  | $V_{GS(OFF)}$ | $V_{DS}=8V, I_D=100\mu A$     | 0.5  | 1.0  | 1.5      | V    |
| Forward Transfer Admittance  | $ Y_{fs} $    | $V_{DS}=8V, I_D=10mA, f=1kHz$ | —    | 15   | 20       | mS   |
| Input Capacitance            | $C_{iss}$     | $V_{DS}=8V, I_D=10mA, f=1MHz$ | 2.9  | 3.5  | 4.1      | pF   |
| Reverse Transfer Capacitance | $C_{rss}$     |                               | —    | 0.3  | 0.8      |      |
| Power Gain                   | $G_{ps}$      | $V_{DS}=8V, I_D=10mA,$        | 18   | 23   | 28       | dB   |
| Noise Figure                 | NF            | $f=100MHz$                    | —    | 1.0  | 2.2      |      |

Fig.1 100MHz  $G_{ps}$ , NF Test Circuit

- $L_1$  : 1.0mm $\phi$  SILVER PLATED COPPER WIRE  
 4.0T, 8mm $\phi$  ID  
 TAP at 1.0T FROM COIL END
- $L_2$  : 1.0mm $\phi$  SILVER PLATED COPPER WIRE  
 3.0T, 8mm $\phi$  ID, 10mm LENGTH







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