

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL DUAL GATE MOS TYPE

3SK195

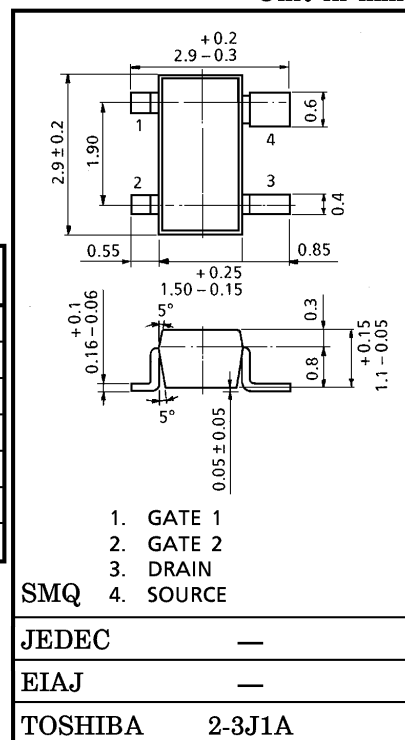
TV TUNER, VHF RF AMPLIFIER APPLICATIONS
FM TUNER APPLICATIONS

Unit in mm

- Superior Cross Modulation Performance.
- Low Reverse Transfer Capacitance : $C_{RSS} = 0.015\text{pF}$ (Typ.)
- Low Noise Figure : $NF = 1.1\text{dB}$ (Typ.)

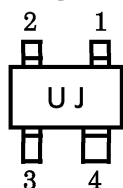
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---------------------------|-----------|----------------|------------------|
| Drain-Source Voltage | V_{DS} | 13.5 | V |
| Gate 1-Source Voltage | V_{G1S} | ± 8 | V |
| Gate 2-Source Voltage | V_{G2S} | ± 8 | V |
| Drain Current | I_D | 30 | mA |
| Drain Power Dissipation | P_D | 150 | mW |
| Channel Temperature | T_{ch} | 125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | $-55 \sim 125$ | $^\circ\text{C}$ |



Weight : 0.013g

Marking

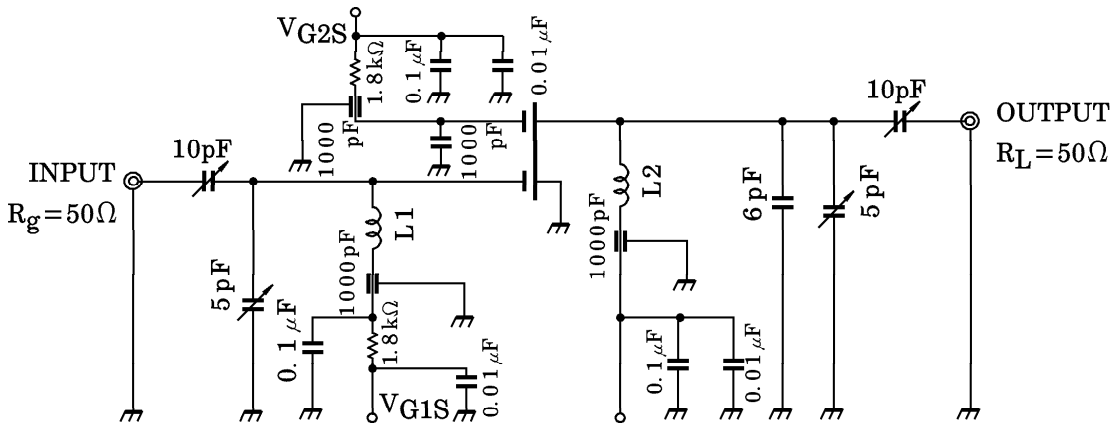


ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------|----------------|---|------|-------|----------|------|
| Gate 1 Leakage Current | I_{G1SS} | $V_{DS} = 0, V_{G1S} = \pm 4V, V_{G2S} = 0$ | — | — | ± 50 | nA |
| Gate 2 Leakage Current | I_{G2SS} | $V_{DS} = 0, V_{G1S} = 0, V_{G2S} = \pm 4V$ | — | — | ± 50 | nA |
| Drain-Source Voltage | $V(BR)_{DSX}$ | $V_{G1S} = -4V, V_{G2S} = -4V, I_D = 100\mu A$ | 13.5 | — | — | V |
| Drain Current | I_{DSS} | $V_{DS} = 6V, V_{G1S} = 0, V_{G2S} = 4V$ | 0 | — | 0.1 | mA |
| Gate 1-Source Cut-off Voltage | $V_{G1S(OFF)}$ | $V_{DS} = 6V, V_{G2S} = 4V, I_D = 100\mu A$ | 0 | — | 1.0 | V |
| Gate 2-Source Cut-off Voltage | $V_{G2S(OFF)}$ | $V_{DS} = 6V, V_{G1S} = 4V, I_D = 100\mu A$ | 0 | — | 1.2 | V |
| Forward Transfer Admittance | $ Y_{fs} $ | $V_{DS} = 6V, V_{G2S} = 4V, I_D = 10mA, f = 1kHz$ | — | 13 | — | mS |
| Input Capacitance | C_{iss} | $V_{DS} = 6V, V_{G2S} = 4V, I_D = 10mA, f = 1MHz$ | 2.0 | 2.7 | 3.4 | pF |
| Reverse Transfer Capacitance | C_{rss} | | — | 0.015 | 0.03 | pF |
| Power Gain | G_{ps} | $V_{DS} = 6V, V_{G2S} = 4V, I_D = 10mA, f = 200MHz$ (Fig.1) | 22 | 27 | — | dB |
| Noise Figure | NF | | — | 1.1 | 2.2 | dB |

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L1 : 1mmφ Silver Plated Copper Wire, 2 Turns, 8mm ID
 L2 : 1mmφ Silver Plated Copper Wire, 2.5 Turns, 8mm ID

Fig.1 200MHz, Gps NF TEST CIRCUIT

