

# SILICON N CHANNEL DUAL GATE MOS TYPE

3SK77

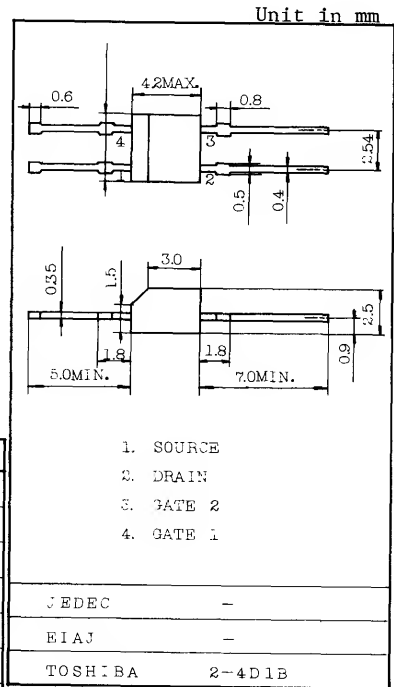
VHF TV TUNER RF AMPLIFIER APPLICATIONS.

## FEATURES:

- Extremely Low Reverse Transfer Capacitance.  
:  $C_{rss}=0.03pF$  (Typ.)
- Low Noise Figure :  $NF=2.2dB$  (Typ.) at  $f=200MHz$
- Superior Cross Modulation Performance.
- Contains Gate Protection Diodes.

## MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC            | SYMBOL    | RATING  | UNIT |
|---------------------------|-----------|---------|------|
| Drain-Source Voltage      | $V_{DS}$  | 20      | V    |
| Gate1-Source Voltage      | $V_{G1S}$ | $\pm 9$ | V    |
| Gate2-Source Voltage      | $V_{G2S}$ | $\pm 9$ | V    |
| Drain Current             | $I_D$     | 30      | mA   |
| Drain Power Dissipation   | $P_D$     | 300     | mW   |
| Channel Temperature       | $T_{ch}$  | 125     | °C   |
| Storage Temperature Range | $T_{stg}$ | -55~125 | °C   |



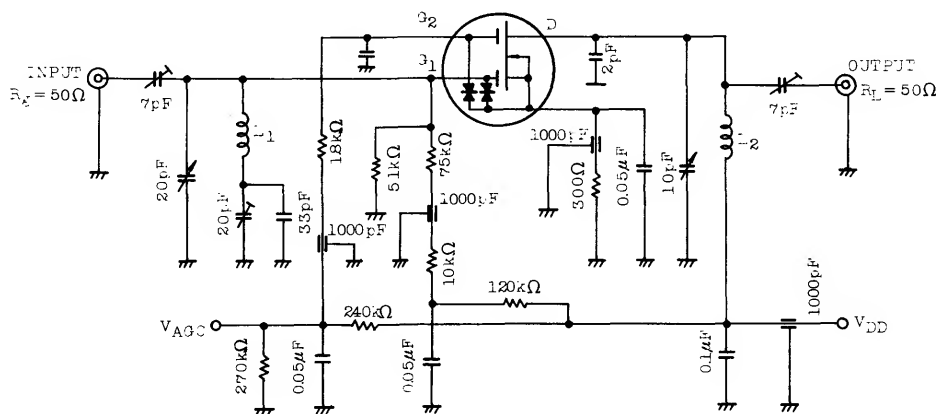
Weight : 0.12g

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTIC                 | SYMBOL         | TEST CONDITION                             | MIN. | TYP. | MAX.     | UNIT |
|--------------------------------|----------------|--------------------------------------------|------|------|----------|------|
| Gate1 Leakage Current          | $I_{G1SS}$     | $V_{DS}=0, V_{G1S}=\pm 7V, V_{G2S}=0$      | -    | -    | $\pm 50$ | nA   |
| Gate2 Leakage Current          | $I_{G2SS}$     | $V_{DS}=0, V_{G1S}=0, V_{G2S}=\pm 7V$      | -    | -    | $\pm 50$ | nA   |
| Drain-Source Breakdown Voltage | $V(BR)_{DSX}$  | $V_{G1S}=-4V, V_{G2S}=-4V, I_D=100\mu A$   | 20   | -    | -        | V    |
| Drain Current (Note)           | $I_{DSS}$      | $V_{DS}=15V, V_{G1S}=0, V_{G2S}=4V$        | 3    | -    | 24       | mA   |
| Gate1-Source Cut-off Voltage   | $V_{G1S(off)}$ | $V_{DS}=15V, V_{G2S}=4V, I_D=100\mu A$     | -0.3 | -    | -2.5     | V    |
| Gate2-Source Cut-off Voltage   | $V_{G2S(off)}$ | $V_{DS}=15V, V_{G1S}=0, I_D=100\mu A$      | -0.3 | -    | -2.5     | V    |
| Forward Transfer Admittance    | $ y_{fs} $     | $V_{DS}=15V, V_{G2S}=4V, I_D=10mA, f=1kHz$ | -    | 20   | -        | ms   |
| Input Capacitance              | $C_{iss}$      | $V_{DS}=15V, V_{G2S}=4V, I_D=10mA, f=1MHz$ | -    | 4.25 | -        | pF   |
| Reverse Transfer Capacitance   | $C_{rss}$      | $V_{DS}=15V, V_{G2S}=4V, I_D=10mA, f=1MHz$ | -    | 0.03 | 0.05     | pF   |
| Power Gain                     | $G_{PS}$       | $V_{DD}=15V, f=200MHz$ (Fig.)              | 16   | 20   | -        | dB   |
| Noise Figure                   | NF             | $V_{DD}=15V, f=200MHz$ (Fig.)              | -    | 2.2  | 3.2      | dB   |

Note :  $I_{DSS}$  Classification Y : 3~7, GR : 6~14, BL : 12~24

Fig. 200MHz GPS, NF TEST CIRCUIT



$L_1$  : 1.0mm $\varnothing$  SILVER PLATED COPPER WIRE 1.0T 10ID

$L_2$  : 1.0mm $\varnothing$  SILVER PLATED COPPER WIRE 1.5T 10ID

