

TOSHIBA MOS TYPE INTEGRATED CIRCUIT SILICON MONOLITHIC

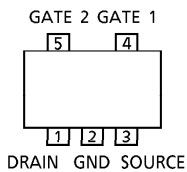
TA4006F

TV TUNER VHF RF AMPLIFIER APPLICATIONS.
TV TUNER UHF RF AMPLIFIER APPLICATIONS.
FM TUNER RF AMPLIFIER APPLICATIONS.

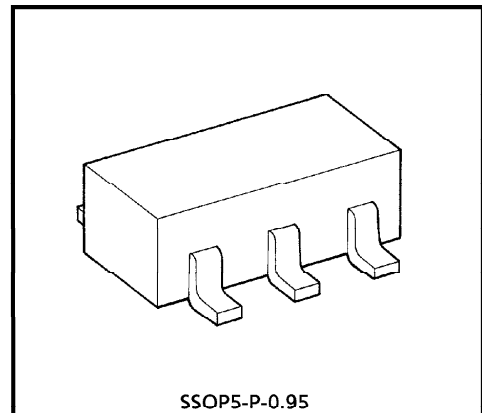
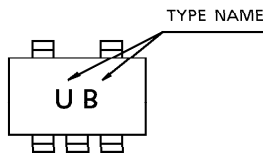
FEATURES

- On account of this Device Built-in Bias Circuit, Cut down number of articles.
- Low Noise Figure : NF = 2.0dB (Typ.)
- Operating Voltage : $V_{DD} = 6 \sim 11V$

PIN ASSIGNMENT (TOP VIEW)



MARKING



Weight : 0.014g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------|-----------|----------|------|
| Supply Voltage | V_{DD} | 11 | V |
| Gate 2-Source Voltage | V_{G2S} | ± 8 | V |
| Supply Current | I_{DD} | 30 | mA |
| Power Dissipation | P_D^* | 250 | mW |
| Operating Temperature | T_{opr} | - 40~85 | °C |
| Storage Temperature | T_{stg} | - 55~125 | °C |

* When mounted on the glass epoxy board of 2.5cm² × 1.6t

961001EBA2

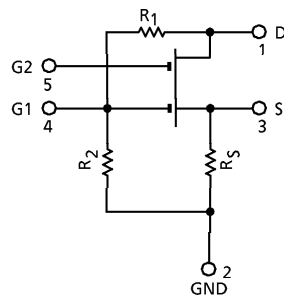
- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- The products described in this document are subject to foreign exchange and foreign trade control laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CIRCUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------|----------------|--------------|---|------|------|----------|------|
| Gate 2 Leakage Current | I_{G2SS} | — | $V_{DS} = 0, V_{G1S} = 0, V_{G2S} = \pm 6V$ | — | — | ± 50 | nA |
| Gate 2-Source Cut-off Voltage | $V_{G2S(OFF)}$ | — | $V_{DD} = 5V, I_{DD} = 150\mu A$ | 0.5 | 1.0 | 1.5 | V |
| Supply Current | I_{DD} | — | $V_{DD} = 9V, V_{G2} = 7V$ | 6 | — | 14 | mA |
| Input Capacitance | C_{iss} | — | $V_{DD} = 9V, V_{G2} = 7V$ | 1.5 | 2.2 | 2.9 | pF |
| Output Capacitance | C_{oss} | — | $f = 1MHz$ | 0.8 | 1.4 | 2.0 | pF |
| Power Gain | G_{ps} | 1 | $V_{DD} = 9V, V_{G2} = 7V$ | 19 | 24.0 | — | dB |
| Noise Figure | NF | 1 | $f = 500MHz$ | — | 2.0 | 2.9 | dB |

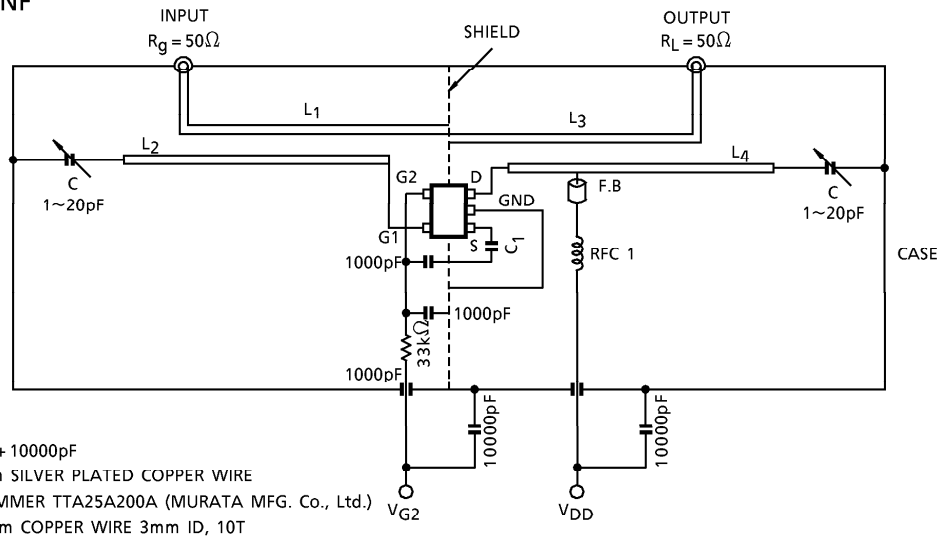
I_{DD} Classifications : Y : 6~10mA, GR : 8~12mA, BL : 10~14mA.

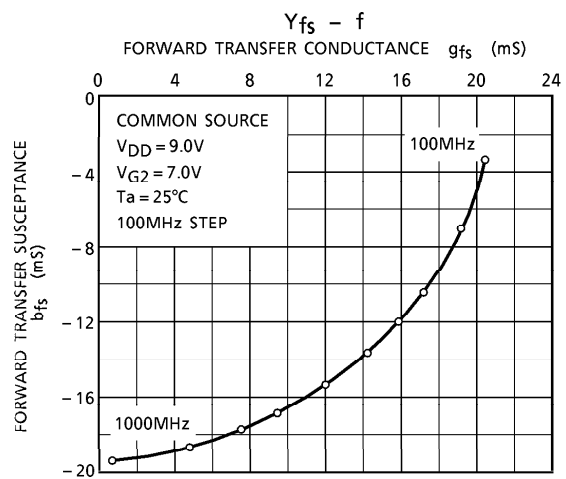
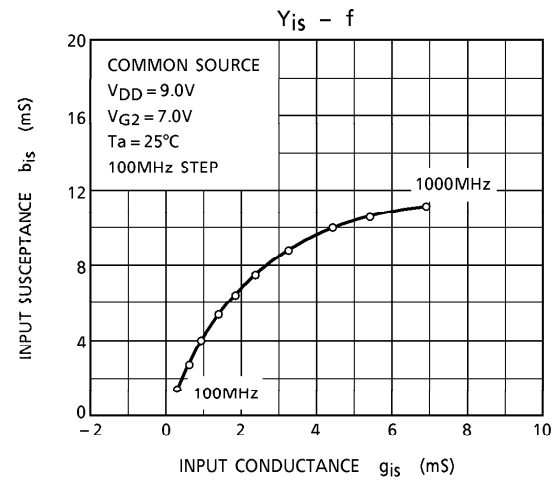
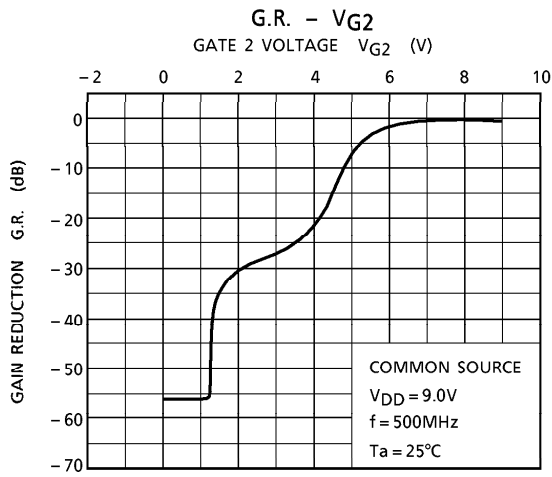
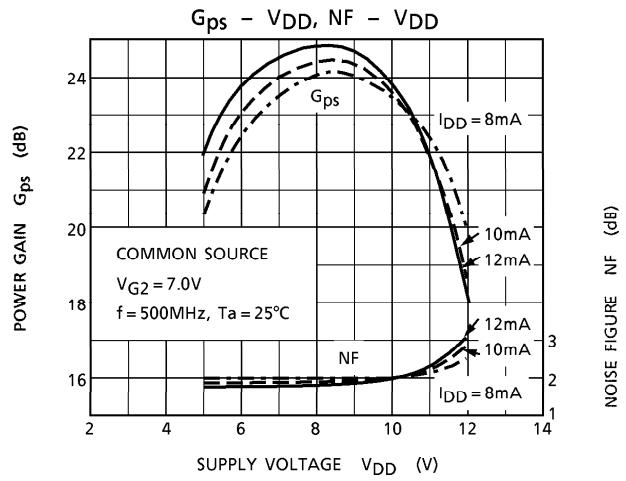
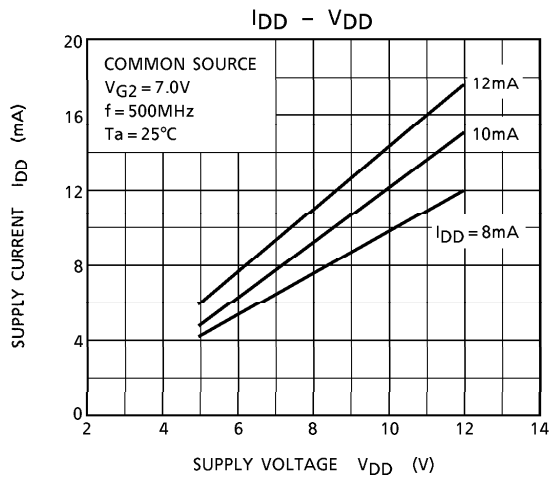
EQUIVALENT CIRCUIT

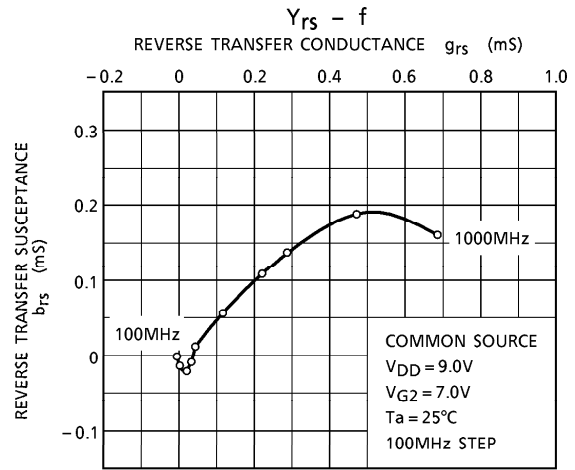
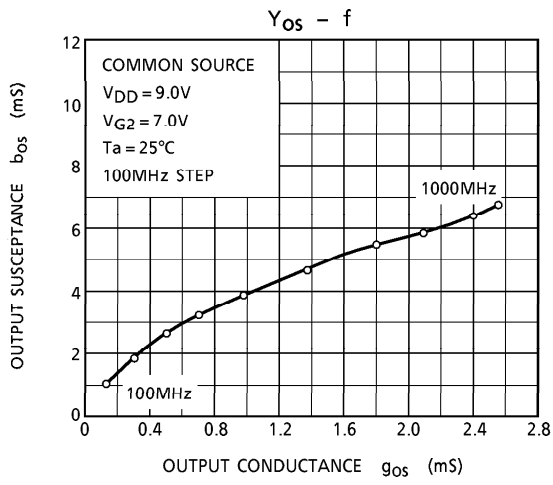


TEST CIRCUIT 1

500MHz, G_{ps} , NF

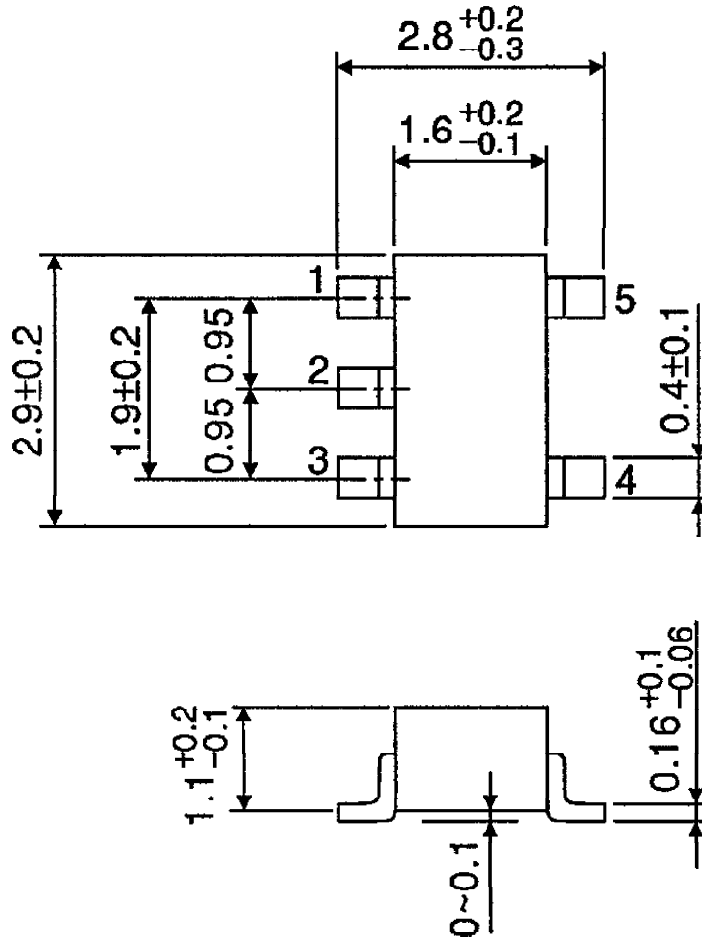






OUTLINE DRAWING
SSOP5-P-0.95

Unit : mm



Weight : 0.014g (Typ.)