

TOSHIBA MOS TYPE INTEGRATED CIRCUIT SILICON MONOLITHIC

## TA4006F

TV TUNER VHF RF AMPLIFIER APPLICATIONS.

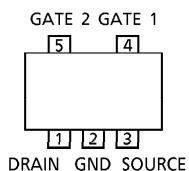
TV TUNER UHF RF AMPLIFIER APPLICATIONS.

FM TUNER RF AMPLIFIER APPLICATIONS.

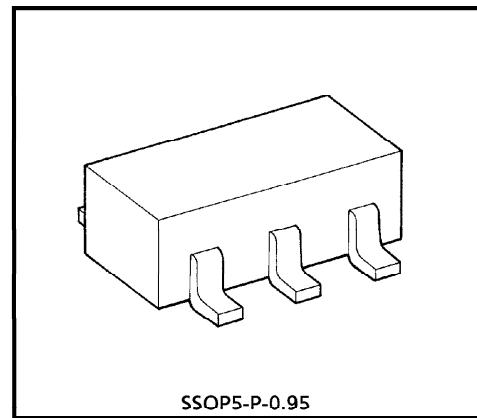
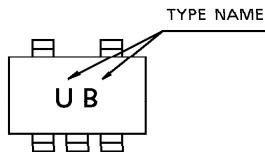
## FEATURES

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

## PIN ASSIGNMENT (TOP VIEW)



## MARKING

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

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

\* When mounted on the glass epoxy board of  $2.5\text{cm}^2 \times 1.6\text{t}$

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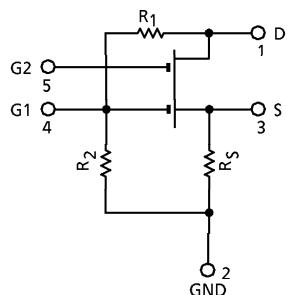
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## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate 2 Leakage Current	$I_{G2SS}$	—	$V_{DS} = 0, V_{G1S} = 0, V_{G2S} = \pm 6V$	—	—	$\pm 50$	nA
Gate 2-Source Cut-off Voltage	$V_{G2S} (\text{OFF})$	—	$V_{DD} = 5V, I_{DD} = 150\mu\text{A}$	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	$C_{oss}$	—	$f = 1\text{MHz}$	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	$f = 500\text{MHz}$	—	2.0	2.9	dB

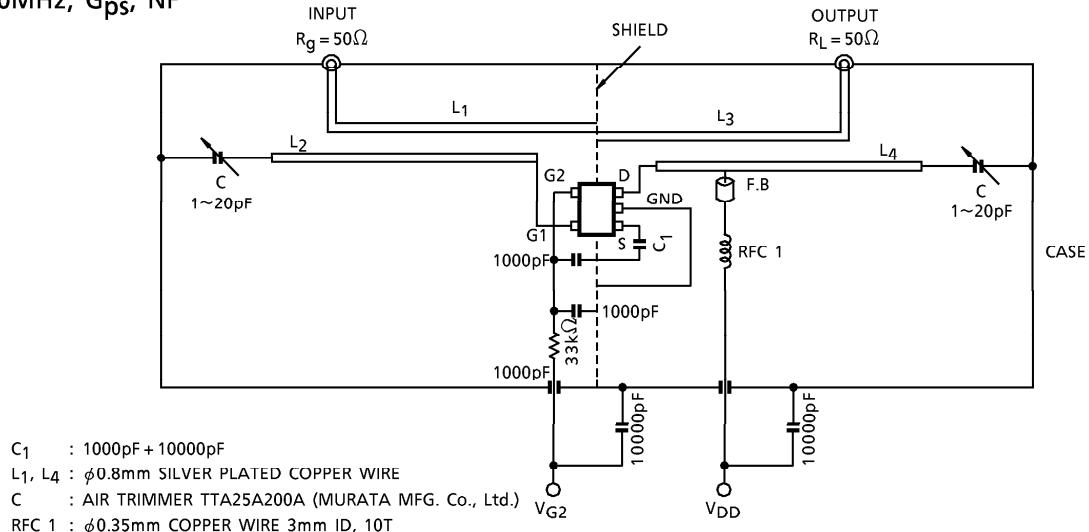
$I_{DD}$  Classifications : Y : 6~10mA, GR : 8~12mA, BL : 10~14mA.

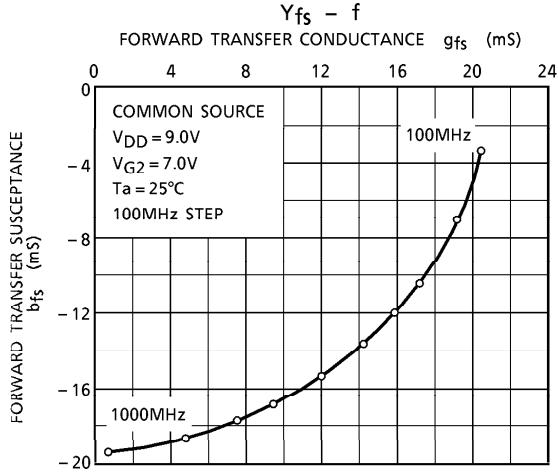
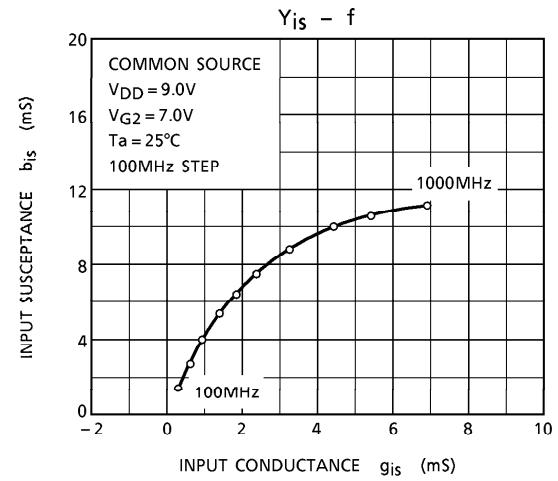
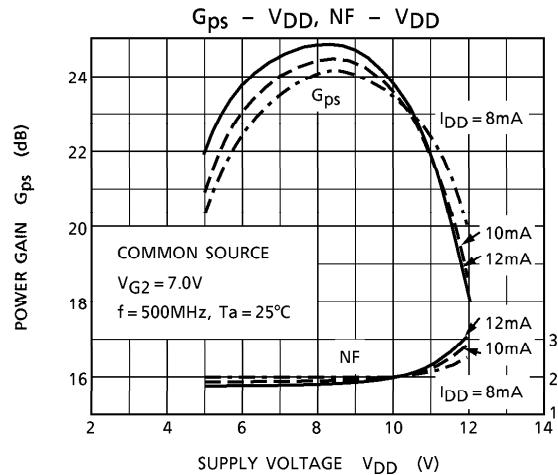
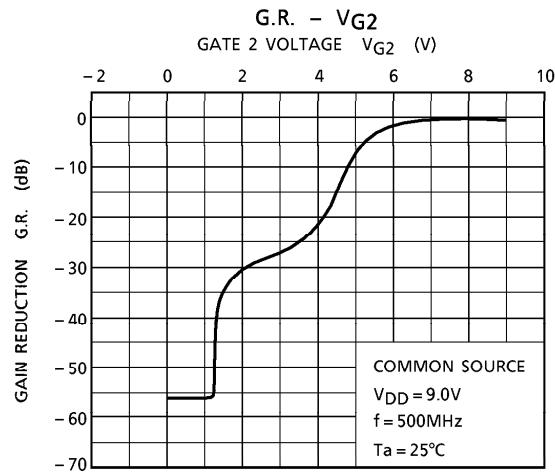
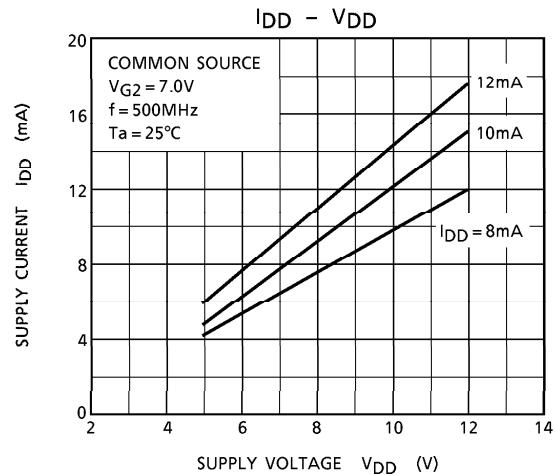
## EQUIVALENT CIRCUIT



## TEST CIRCUIT 1

500MHz,  $G_{ps}$ , NF





NOISE FIGURE NF (dB)

