

TOSHIBA MOS TYPE INTEGRATED CIRCUIT GaAs MONOLITHIC

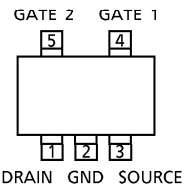
TG2000F

TV TUNER, UHF RF AMPLIFIER APPLICATIONS.

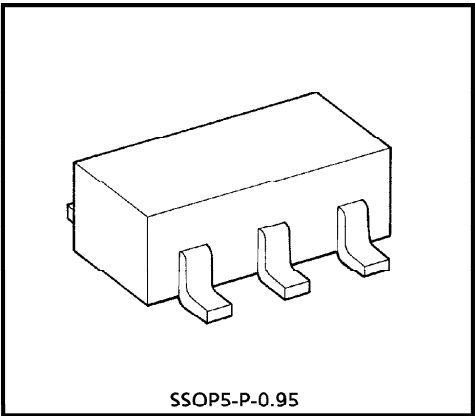
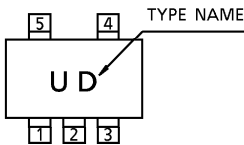
FEATURES

- On account of this Device build in Bias Circuit, Cut down number of articles.
- Low Noise Figure. : NF = 1.5dB (Typ.)
- Operating Voltage. : $V_{DD} = 4\sim 5V$

PIN ASSIGNMENT (TOP VIEW)



MARKING



Weight : 0.014g (Typ.)

MAXIMUM RATING (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{DD}	6	V
Gate 2-Drain Voltage	V_{G2DO}	- 6	V
Gate 2-Source Voltage	V_{G2S}	- 4	V
Gate 2 Current	I_{G2}	1	mA
Drain Power Dissipation	P_D	150	mW
Operating Temperature Range	T_{opr}	- 40~85	°C
Storage Temperature Range	T_{stg}	- 55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate 2 Leakage Current	I_{G2SS}	—	$V_{DS} = 0, V_{G1S} = 0, V_{G2S} = -3V$	—	—	- 4	μA
Drain Current	I_{DSS}	—	$V_{DS} = 2V, V_{G1S} = 0, V_{G2S} = 0$	4	—	16	mA
Gate 2-Source Cut-off Voltage	$V_{G2S} (OFF)$	—	$V_{DS} = 2V, V_{G1S} = 0$ $I_D = 100\mu A$	- 0.75	—	- 1.3	V
Forward Transfer Admittance	$ Y_{fs} $	—	$V_{DS} = 2V, V_{G2S} = 0.5V$ $I_D = 2mA, f = 1kHz$	—	12	—	mS
Drain Current	I_{DD}	1	$V_{DD} = 4.5V, V_{G2} = 2.5V$ $R = 390\Omega$	—	11	—	mA
Power Gain	G_{ps}	2	$V_{DD} = 4.5V, V_{G2} = 2.5V$ $f = 800MHz, R = 390\Omega$	15	19	—	dB
Noise Figure	NF			—	1.5	2.5	dB

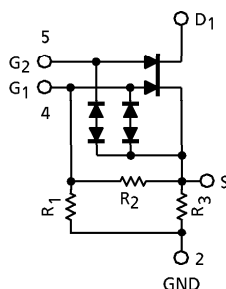
961001EBA2

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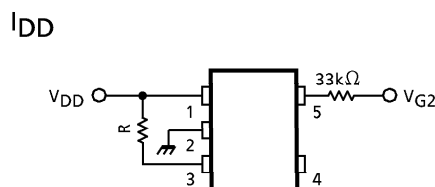
CAUTION

GaAs (Gallium Arsenide) is used in this product. The dust or vapor can be dangerous to humans. Do not break, cut, crush or dissolve chemically. Dispose of this product properly according to law. Do not intermingle with normal industrial or domestic waste. This device is electrostatic sensitivity. Please handle with caution.

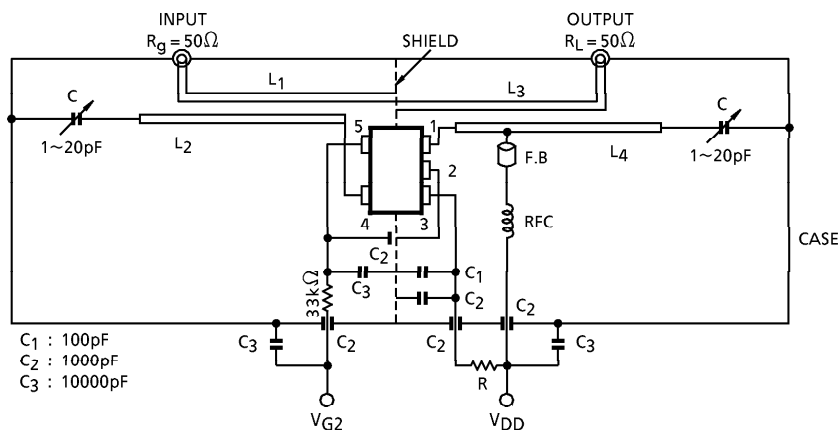
EQUIVALENT CIRCUIT



TEST CIRCUIT 1



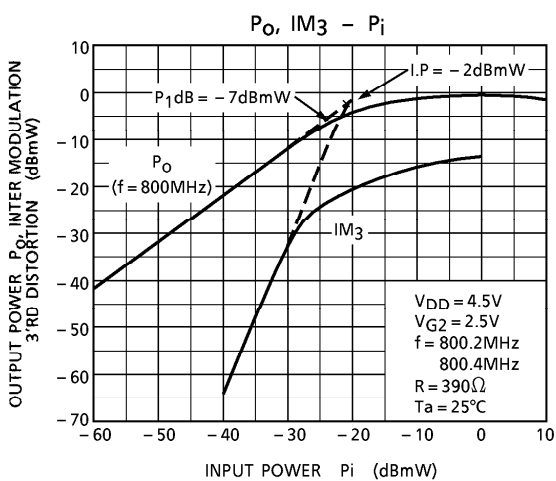
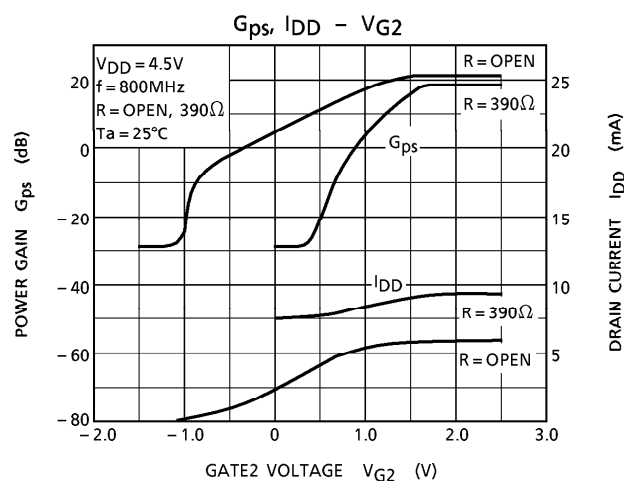
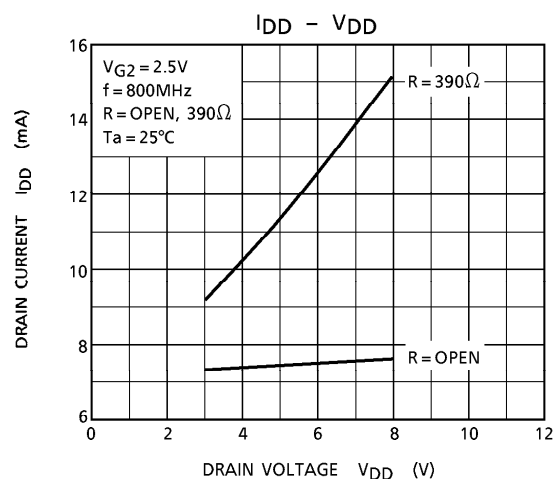
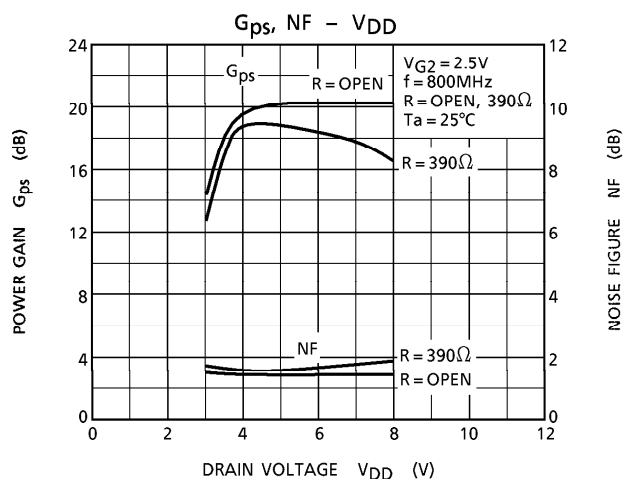
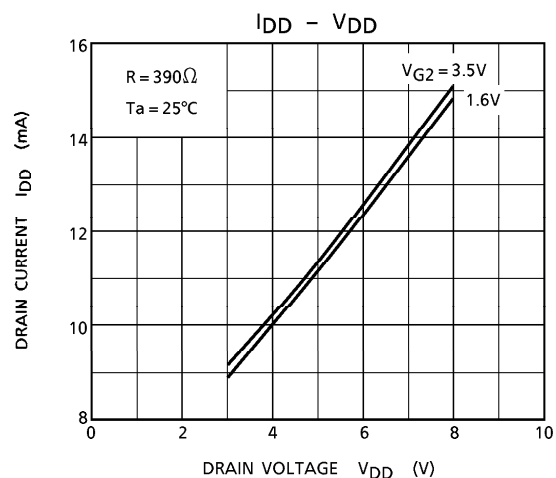
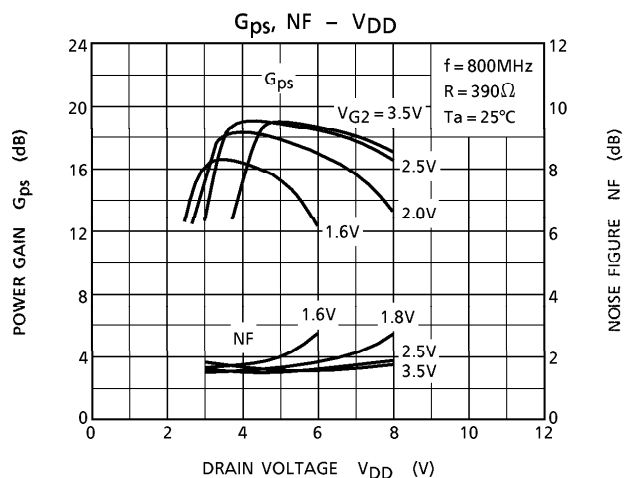
TEST CIRCUIT 2

800MHz G_{ps} , NF

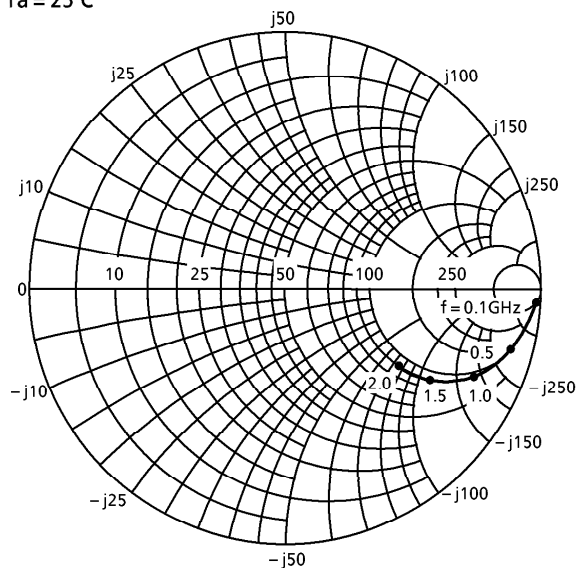
$L_1 \sim L_4$: $\phi 0.8$ mm SILVER PLATED COPPER WIRE
 C : AIR TRIMMER TTA25A200A (MURATA MFG. Co., LTD.)
 RFC : $\phi 0.35$ mm COPPER WIRE 3mm ID, 10T

961001EBA2'

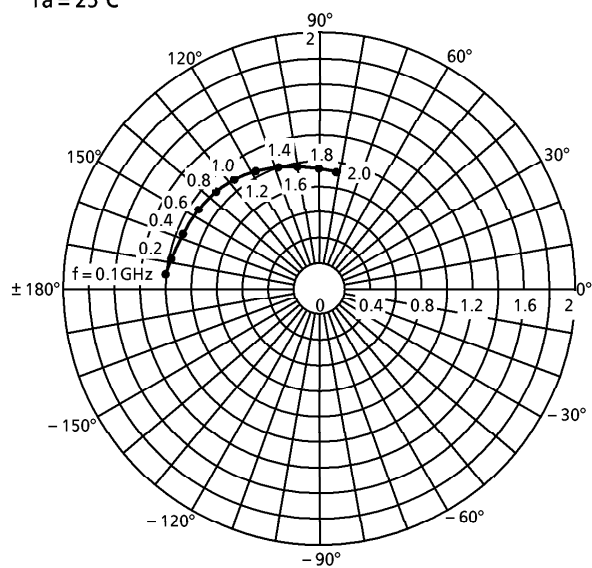
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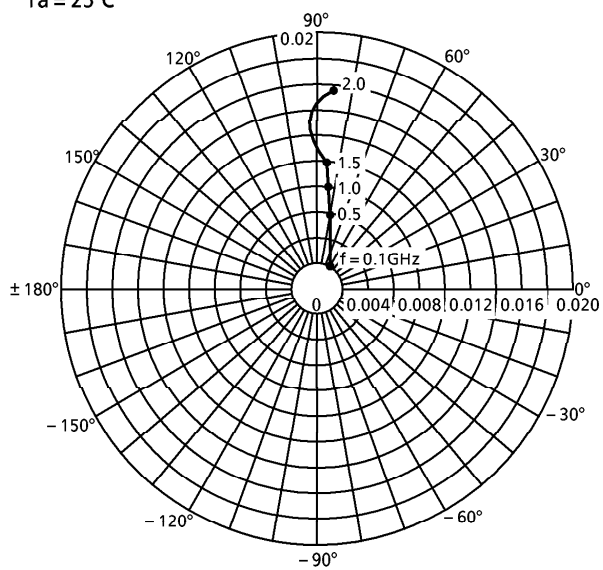
S₁₁
V_{DD} = 4.5V
V_{G2} = 2.5V
f = 800MHz
R = 390Ω
T_a = 25°C



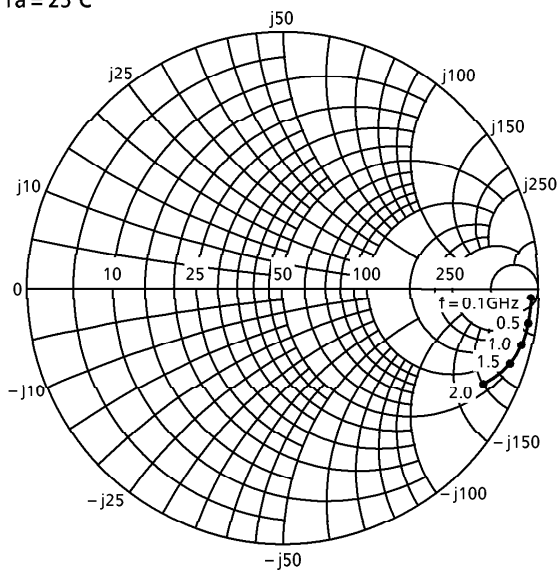
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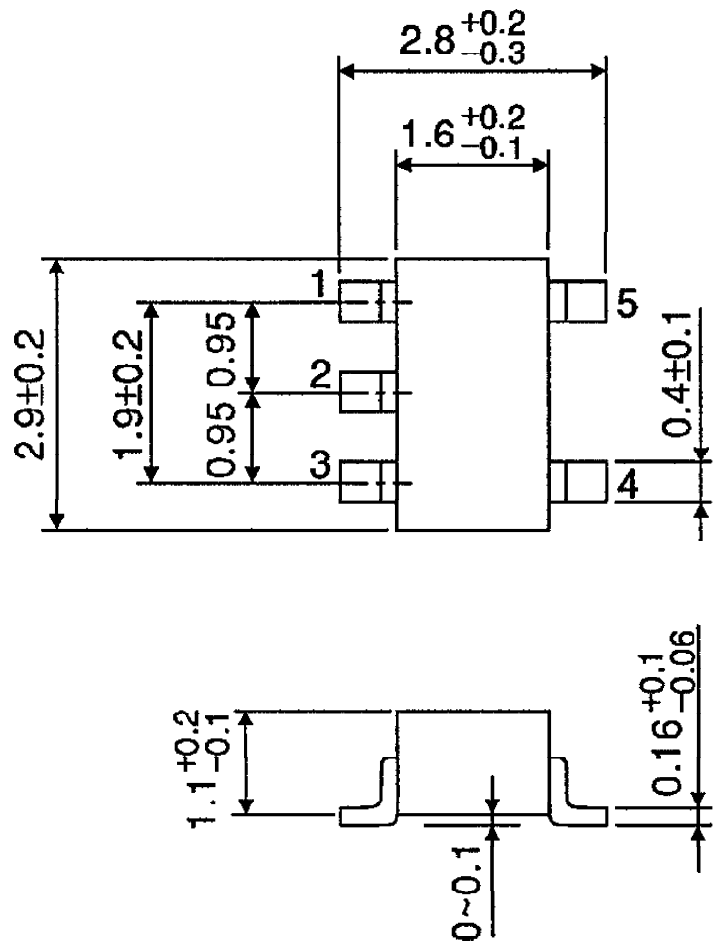


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OUTLINE DRAWING
SSOP5-P-0.95

Unit : mm



Weight : 0.014g (Typ.)