

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

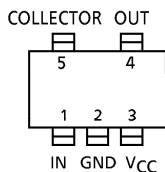
TA4003F

VHF~UHF WIDE BAND AMPLIFIER

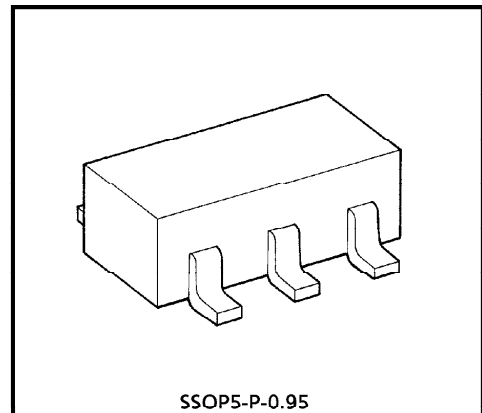
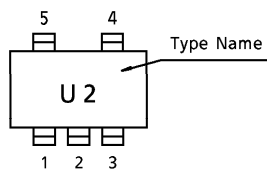
FEATURES

- Band Width 1.5CHz (Typ.) (3dB down, $V_{CC} = 2V$)
- High Gain : $|S_{21}|^2 = 11dB$ (Typ.), ($f = 500MHz$, $V_{CC} = 2V$)
- Operating Supply Voltage : $V_{CC} = 2\sim 3V$
- Low Current Operation : $I_{CC} = 3.5mA$ (Typ.) ($V_{CC} = 2V$)
- Small Package

PIN ASSIGNMENT (TOP VIEW)



Marking



SSOP5-P-0.95
Weight : 0.014g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-------------------------|-----------|----------|------|
| Supply Voltage | V_{CC} | 4 | V |
| Total Power Dissipation | P_D^* | 300 | mW |
| Operating Temperature | T_{opr} | - 40~85 | °C |
| Storage Temperature | T_{stg} | - 55~125 | °C |

* When mounted glass epoxy of 2.5cm² × 1.6t

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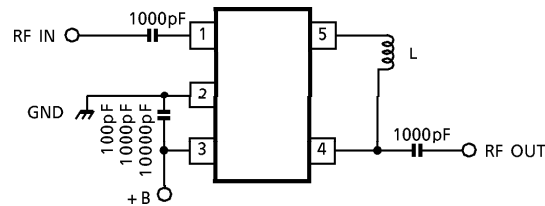
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ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Note 1)

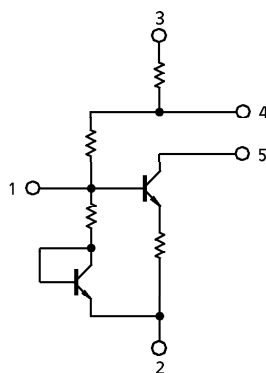
| CHARACTERISTIC | SYMBOL | TEST CIRCUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------------|--------------------------------|--------------|--|------|------|------|------|
| Circuit Current | I _{CC} | — | V _{CC} = 2V, Non carrier | 2.5 | 3.5 | 4.5 | mA |
| Insertion Gain | S ₂₁ ² | 1 | V _{CC} = 2V, f = 500MHz | 9 | 11 | 14 | dB |
| Band Width | BW | 1 | V _{CC} = 2V (Note 2) | 1.2 | 1.5 | — | GHz |
| Noise Figure | NF | 1 | V _{CC} = 2V, f = 500MHz | — | 5.2 | 7 | dB |
| Input Return Loss | S ₁₁ ² | 1 | V _{CC} = 2V, f = 500MHz | — | -7.5 | — | dB |
| Output Return Loss | S ₂₂ ² | 1 | V _{CC} = 2V, f = 500MHz | — | -7.5 | — | dB |
| Isolation | S ₁₂ ² | 1 | V _{CC} = 2V, f = 500MHz | — | -24 | — | dB |
| Maximum Output Level | P _O | 1 | V _{CC} = 2V, f = 500MHz, Pin = 0dBmW | — | 0 | — | dBmW |

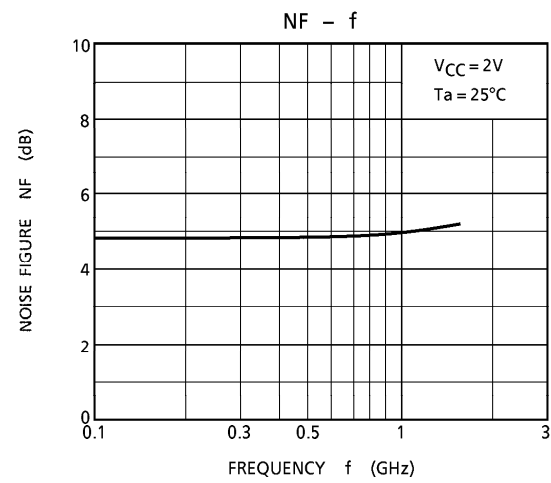
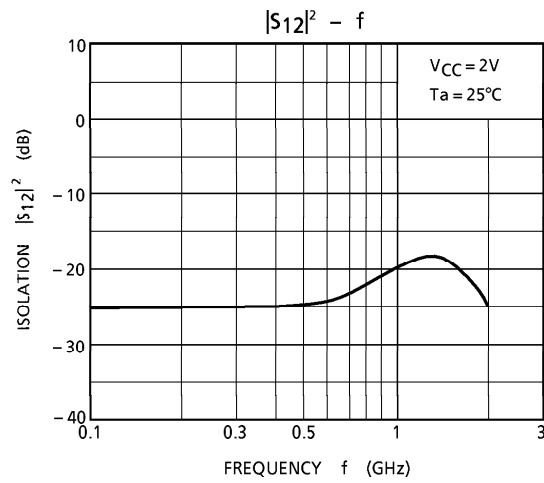
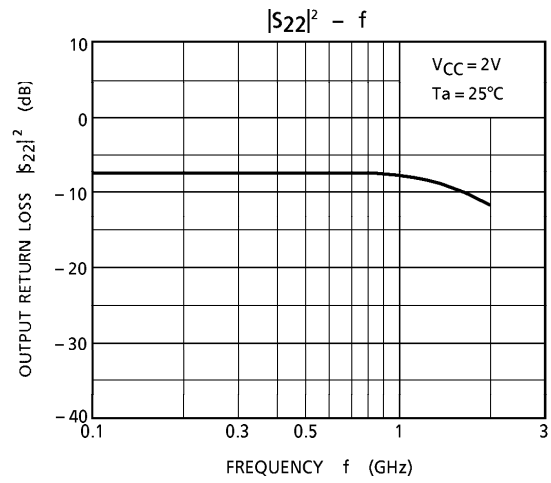
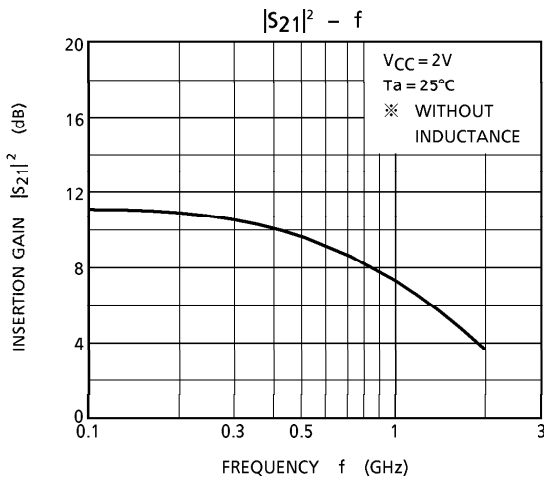
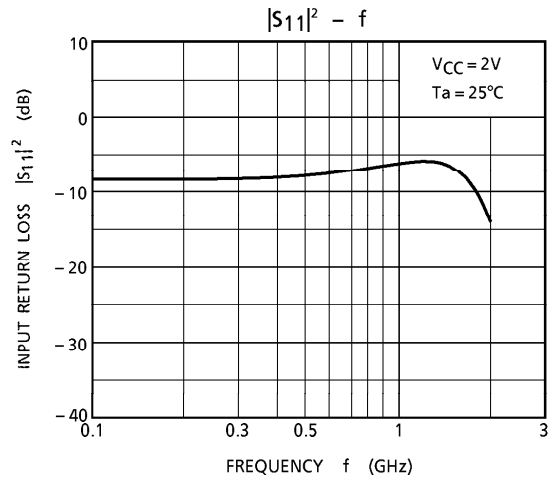
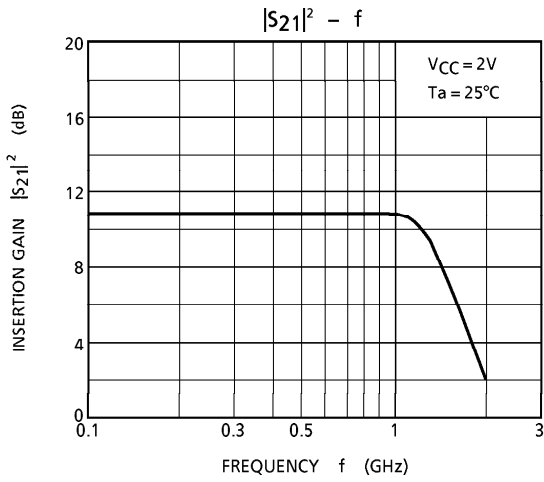
Note 1 : Have use for connect inductance between terminal 4 and 5 8nH at V_{CC} = 2V
 Note 2 : BW is frequency of 3dB down from |S₂₁|² at 500MHz.

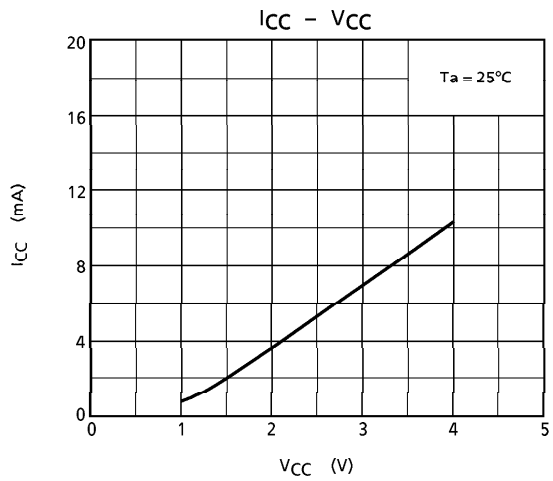
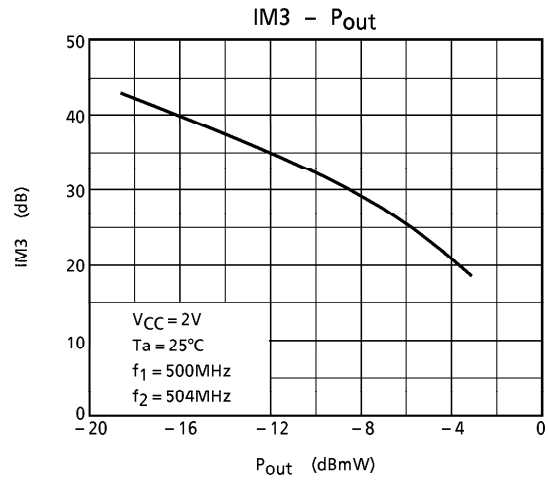
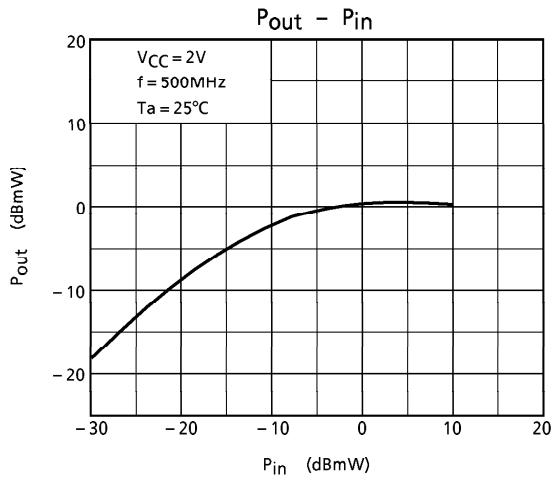
TEST CIRCUIT 1. (TOP VIEW)



EQUIVALENT CIRCUIT

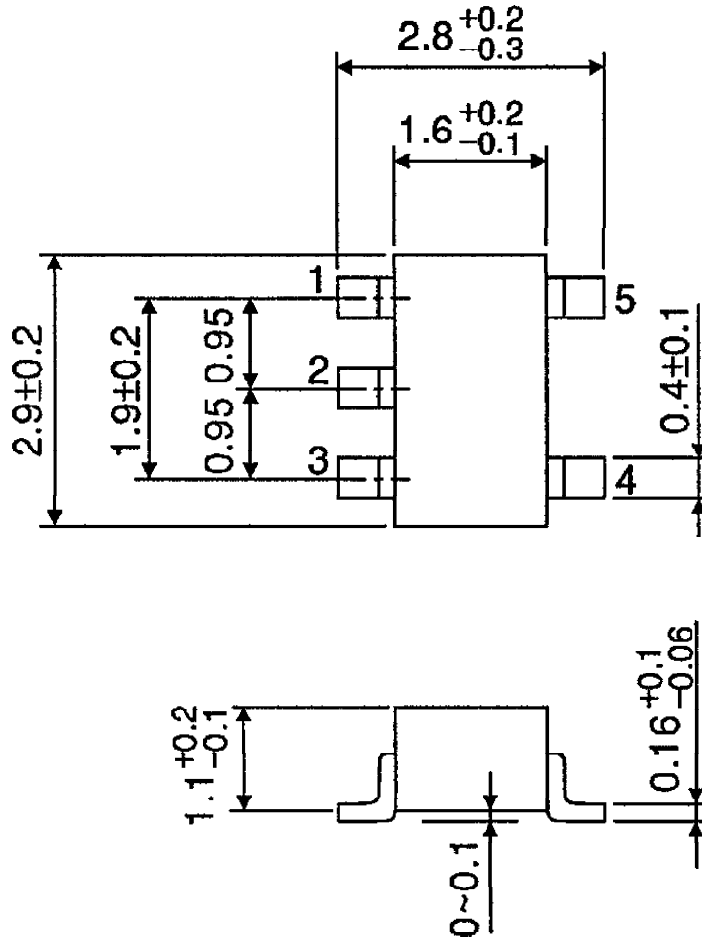






OUTLINE DRAWING
SSOP5-P-0.95

Unit : mm



Weight : 0.014g (Typ.)