

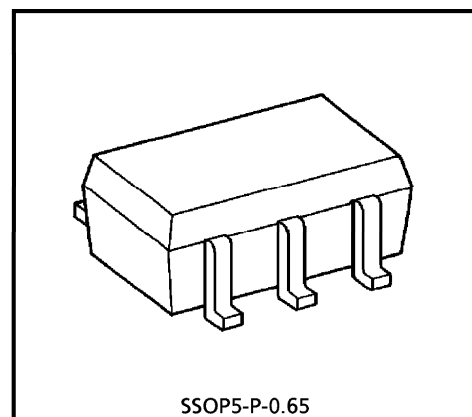
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA4013FU

UHF WIDE BAND AMPLIFIER APPLICATIONS

FEATURES

- High Power : $P_{o1} \text{ dB} = 3 \text{ dBmW}$
- Wide Band : $f = 1.7 \text{ GHz (3 dB down)}$
- Operating Supply Voltage : $V_{CC} = 1.5 \sim 3 \text{ V}$



SSOP5-P-0.65

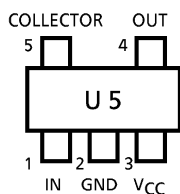
Weight : 0.006 g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-------------------------|----------------|---------|------|
| Supply Voltage | V_{CC} | 4 | V |
| Total Power Dissipation | P_D (Note 1) | 300 | mW |
| Operating Temperature | T_{opr} | -40~85 | °C |
| Storage Temperature | T_{stg} | -55~150 | °C |

(Note 1) : When mounted on the glass epoxy of 2.5 cm² × 1.6 t

PIN ASSIGNMENT



CAUTION

This device electrostatic sensitivity. Please handle with caution.

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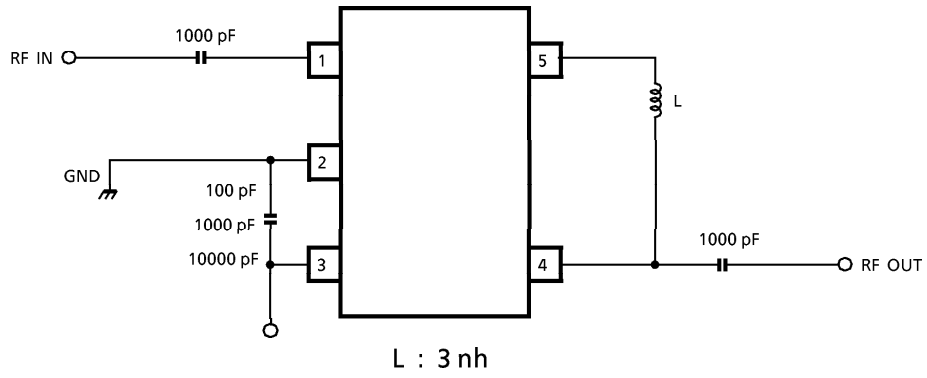
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ELECTRICAL CHARACTERISTICS (Ta = 25°C, Zg = Zl = 50 Ω)

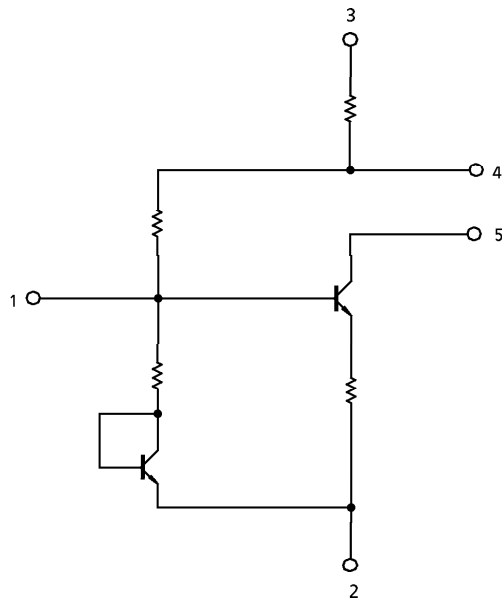
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---------------------------------------|--------------------------------|------------------------------------|------|------|------|------|
| Circuit Current | I _{CC} | V _{CC} = 2 V, Non carrier | 7 | 10.5 | 14 | mA |
| Band Width | BW | V _{CC} = 2 V (Note 2) | 1.5 | 1.7 | — | GHz |
| Insertion Gain | S ₂₁ ² | V _{CC} = 2 V, f = 1 GHz | 12 | 14 | — | dB |
| Noise Figure | NF | V _{CC} = 2 V, f = 1 GHz | — | 4.5 | 6 | dB |
| Isolation | S ₁₂ ² | V _{CC} = 2 V, f = 1 GHz | — | -26 | — | dB |
| Input Return Loss | S ₁₁ ² | V _{CC} = 2 V, f = 1 GHz | — | -5.5 | — | dB |
| Output Return Loss | S ₂₂ ² | V _{CC} = 2 V, f = 1 GHz | — | -15 | — | dB |
| Output Power at 1 dB Gain Compression | Po1dB | V _{CC} = 2 V, f = 1 GHz | — | 3 | — | dBmW |

(Note 2) : BW is the frequency of 3 dB down from |S₂₁|² at 1 GHz.

RF TEST CIRCUIT (TOP VIEW)

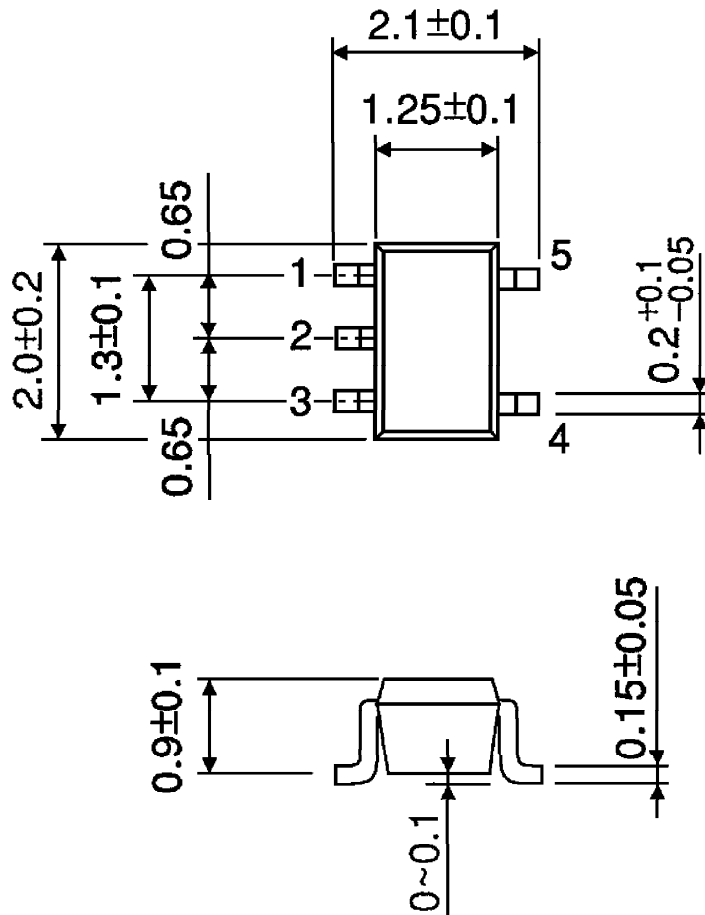


EQUIVALENT CIRCUIT



OUTLINE DRAWING
SSOP5-P-0.65

Unit : mm



Weight : 0.006 g (Typ.)