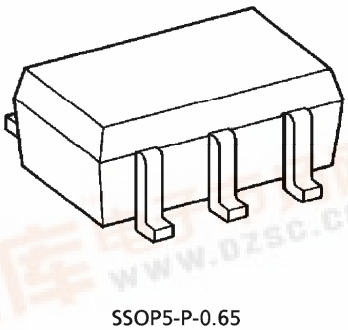
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA4013FU

UHF WIDE BAND AMPLIFIER APPLICATIONS

FEATURES

- High Power : Po1 dB = 3 dBmW
- Wide Band : f = 1.7 GHz (3 dB down)
- Operating Supply Voltage : V_{CC} = 1.5~3 V



SSOP5-P-0.65

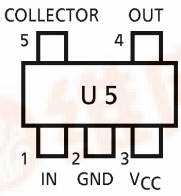
Weight : 0.006 g (Typ.)

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 cm^2 × 1.6 t

PIN ASSIGNMENT



CAUTION

This device electrostatic sensitivity. Please handle with caution.

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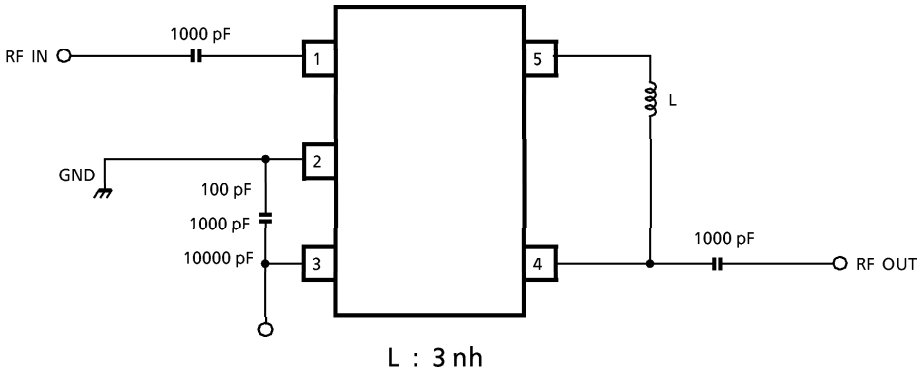
ELECTRICAL CHARACTERISTICS (Ta = 25°C, Zg = Zl = 50 Ω)

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	$\|S21\|^2$	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	$\|S12\|^2$	V_{CC} = 2 V, f = 1 GHz	—	− 26	—	dB
Input Return Loss	$\|S11\|^2$	V_{CC} = 2 V, f = 1 GHz	—	− 5.5	—	dB
Output Return Loss	$\|S22\|^2$	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

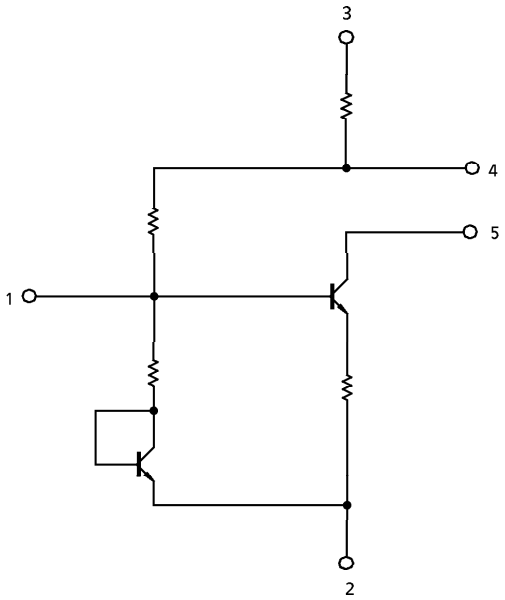
(Note 2) : BW is the frequency of 3 dB down from $|S21|^2$ at 1 GHz.

RF TEST CIRCUIT (TOP VIEW)



L : 3 nh

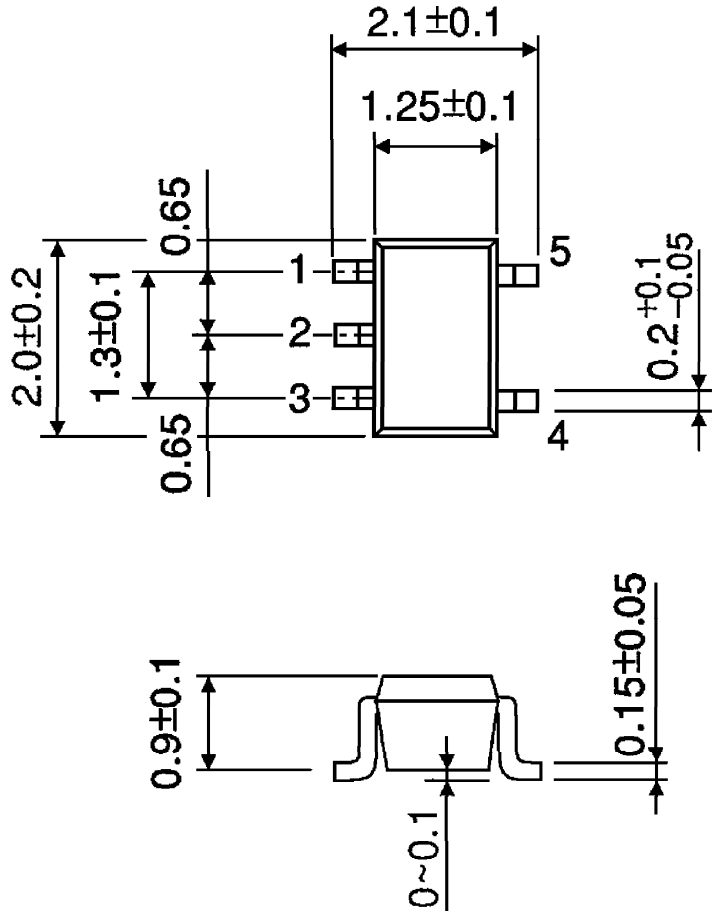
EQUIVALENT CIRCUIT



OUTLINE DRAWING

SSOP5-P-0.65

Unit : mm



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