

TOSHIBA**TA4013FU**

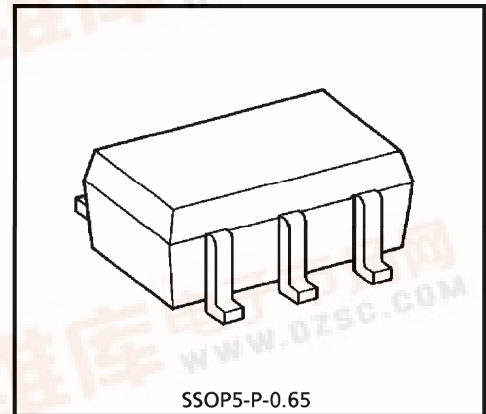
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

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

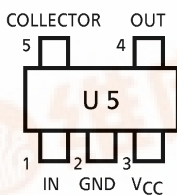
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Weight : 0.006 g (Typ.)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	4	V
Total Power Dissipation	P_D (Note 1)	300	mW
Operating Temperature	T_{opr}	$-40\sim 85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55\sim 150$	$^\circ\text{C}$

(Note 1) : When mounted on the glass epoxy of $2.5\text{ cm}^2 \times 1.6\text{ t}$

PIN ASSIGNMENT



CAUTION

This device electrostatic sensitivity. Please handle with caution.

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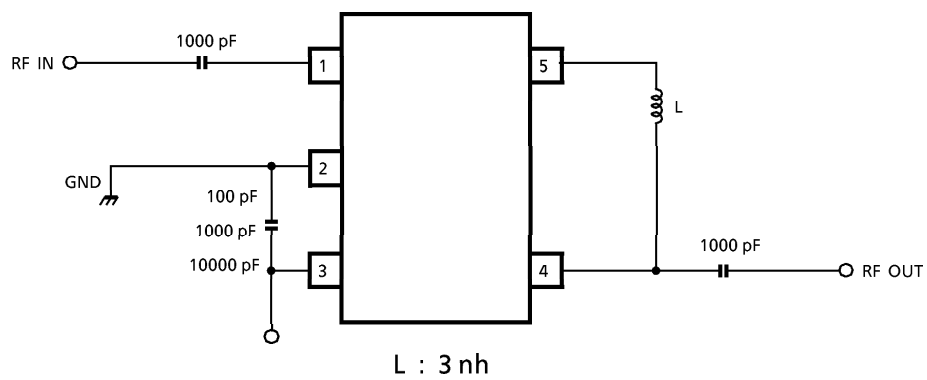
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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$, $Z_g = Z_l = 50\ \Omega$)

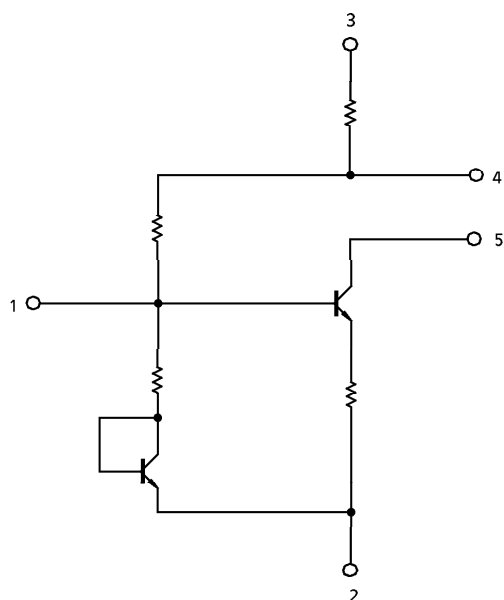
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Circuit Current	I_{CC}	$V_{CC} = 2\text{ V}$, Non carrier	7	10.5	14	mA
Band Width	BW	$V_{CC} = 2\text{ V}$ (Note 2)	1.5	1.7	—	GHz
Insertion Gain	$ S_{21} ^2$	$V_{CC} = 2\text{ V}$, $f = 1\text{ GHz}$	12	14	—	dB
Noise Figure	NF	$V_{CC} = 2\text{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

(Note 2) : BW is the frequency of 3 dB down from $|S_{21}|^2$ at 1 GHz.

RF TEST CIRCUIT (TOP VIEW)

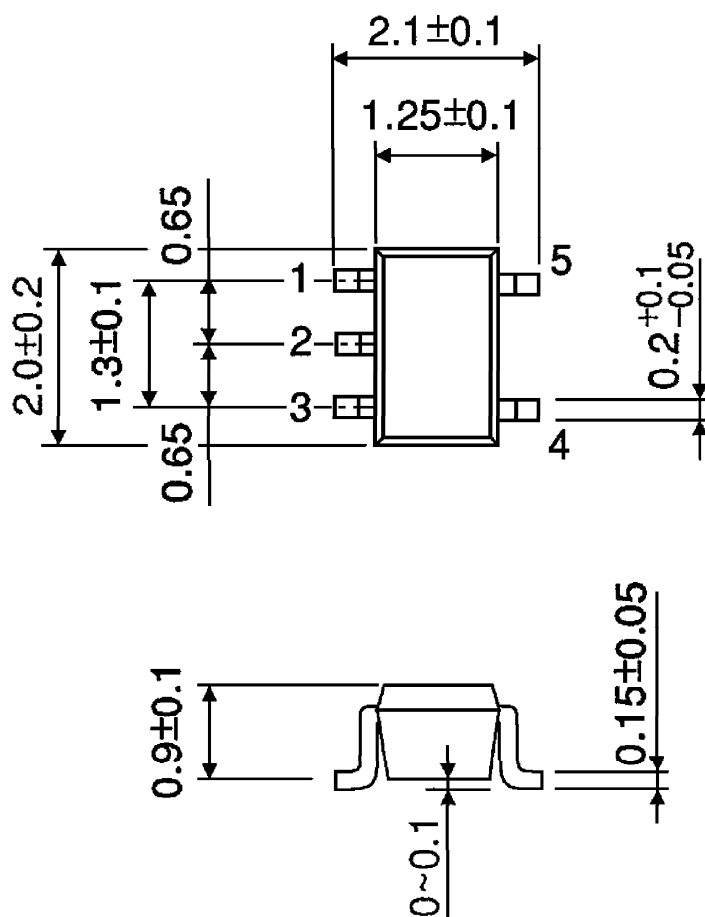


EQUIVALENT CIRCUIT



OUTLINE DRAWING
SSOP5-P-0.65

Unit : mm



Weight : 0.006 g (Typ.)