

TENTATIVE

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

# HN9C01FT

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

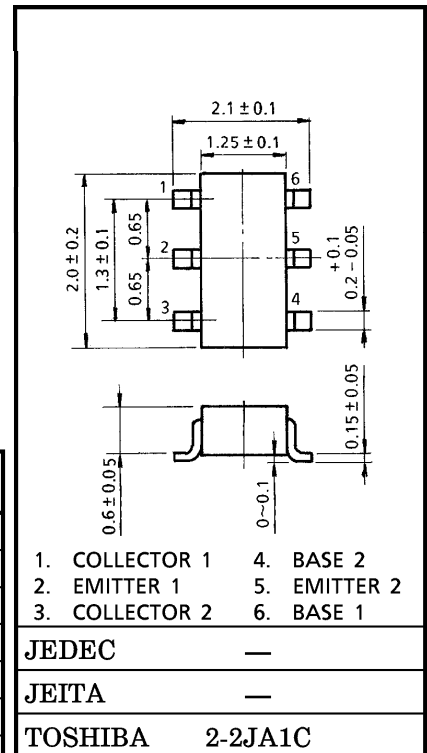
- Two devices are built in to the super-thin and ultra super mini (6pins) package : TU6

**MOUNTED DEVICES**

	Q1	Q2
Three-pins (SSM) mold products are corresponded.	2SC5096	2SC5086

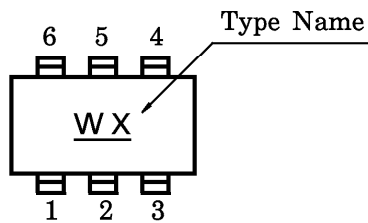
**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	Q1	Q2	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	20		V
Collector-Emitter Voltage	V <sub>CEO</sub>	8	12	V
Emitter-Base Voltage	V <sub>EBO</sub>	1.5	3	V
Collector Current	I <sub>C</sub>	15	80	mA
Base Current	I <sub>B</sub>	7	40	mA
Collector Power Dissipation	P <sub>C</sub>	200		mW
Junction Temperature	T <sub>j</sub>	125		°C
Storage Temperature Range	T <sub>stg</sub>	-55~125		°C

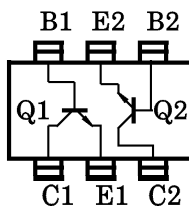


Weight : 0.008g

**MARKING**



**PIN ASSIGNMENT (TOP VIEW)**



ELECTRICAL CHARACTERISTICS Q1 (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0	—	—	1	μA
Emitter Cut-off Current	IEBO	V <sub>EB</sub> = 1V, I <sub>C</sub> = 0	—	—	1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 6V, I <sub>C</sub> = 7mA	50	—	160	—
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 6V, I <sub>C</sub> = 7mA	7	10	—	GHz
Insertion Gain	S <sub>21e</sub>   <sup>2</sup> (1)	V <sub>CE</sub> = 6V, I <sub>C</sub> = 7mA, f = 1000MHz	—	13	—	dB
	S <sub>21e</sub>   <sup>2</sup> (2)	V <sub>CE</sub> = 6V, I <sub>C</sub> = 7mA, f = 2000MHz	4.5	7.5	—	dB
Noise Figure	NF (1)	V <sub>CE</sub> = 6V, I <sub>C</sub> = 3mA, f = 1000MHz	—	1.4	—	dB
	NF (2)	V <sub>CE</sub> = 6V, I <sub>C</sub> = 3mA, f = 2000MHz	—	1.8	3	dB

ELECTRICAL CHARACTERISTICS Q2 (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0	—	—	1	μA
Emitter Cut-off Current	IEBO	V <sub>EB</sub> = 1V, I <sub>C</sub> = 0	—	—	1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA	80	—	240	—
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA	5	7	—	GHz
Insertion Gain	S <sub>21e</sub>   <sup>2</sup> (1)	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA, f = 500MHz	—	16.5	—	dB
	S <sub>21e</sub>   <sup>2</sup> (2)	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA, f = 1000MHz	8	11	—	dB
Noise Figure	NF (1)	V <sub>CE</sub> = 10V, I <sub>C</sub> = 5mA, f = 500MHz	—	1	—	dB
	NF (2)	V <sub>CE</sub> = 10V, I <sub>C</sub> = 5mA, f = 1000MHz	—	1.1	2	dB

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