

TENTATIVE

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN2C12FT

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

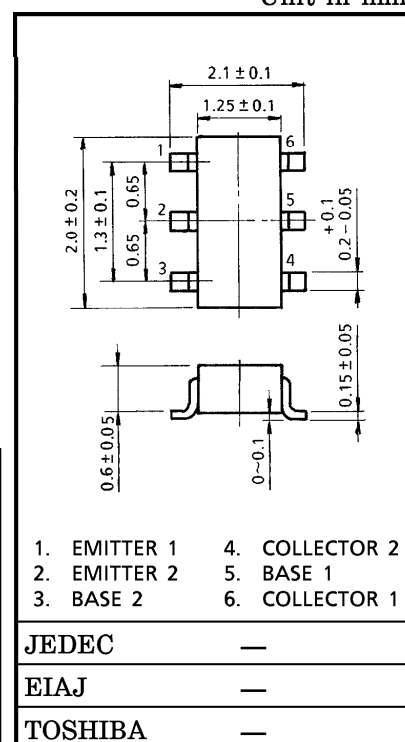
- TWO devices are built in to the super-thin and ultra super mini (.6pins) package : TU6

MOUNTED DEVICES

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

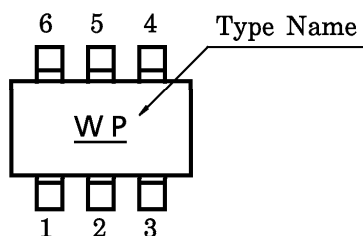
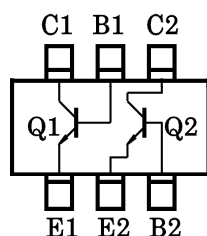
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	20	V
Collector-Emitter Voltage	V _{CEO}	8	V
Emitter-Base Voltage	V _{EBO}	1.5	V
Collector Current	I _C	15	mA
Base Current	I _B	7	mA
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C



PIN ASSIGNMENT (TOP VIEW)

MARKING



961001EAA1

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
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ELECTRICAL CHARACTERISTICS (Q1, Q2) ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 10\text{V}, I_E = 0$	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 1\text{V}, I_C = 0$	—	—	1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6\text{V}, I_C = 7\text{mA}$	50	—	160	—
Transition Frequency	f_T	$V_{CE} = 6\text{V}, I_C = 7\text{mA}$	7	10	—	GHz
Insertion Gain	$ S_{21e} ^2 (1)$	$V_{CE} = 6\text{V}, I_C = 7\text{mA}, f = 1000\text{MHz}$	—	13	—	dB
	$ S_{21e} ^2 (2)$	$V_{CE} = 6\text{V}, I_C = 7\text{mA}, f = 2000\text{MHz}$	4	7.5	—	
Noise Figure	NF (1)	$V_{CE} = 6\text{V}, I_C = 3\text{mA}, f = 1000\text{MHz}$	—	1.4	—	dB
	NF (2)	$V_{CE} = 6\text{V}, I_C = 3\text{mA}, f = 2000\text{MHz}$	—	1.8	3	
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz (Note)}$	—	0.4	0.9	pF
Reverse Transfer Capacitance	C_{re}		—	0.35	0.85	

(Note) C_{re} is measured by 3 terminal method capacitance bridge.