

TENTATIVE

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN9C09FT

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

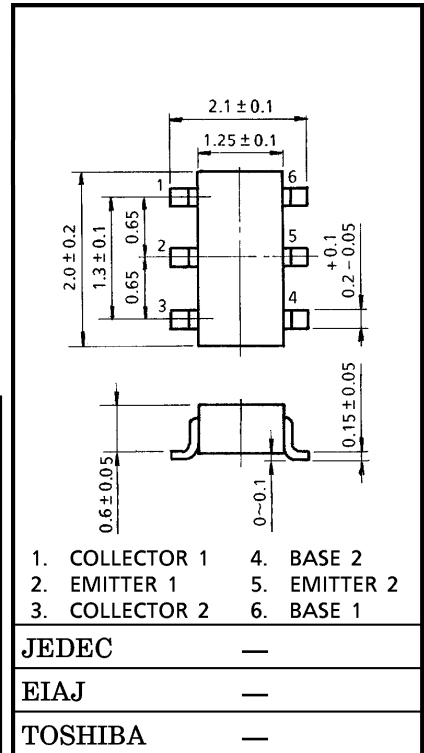
- TWO devices are built in to the super-thin and ultra super mini (6pins) package : TU6

MOUNTED DEVICES

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

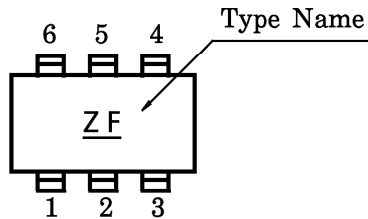
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	Q1 / Q2	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

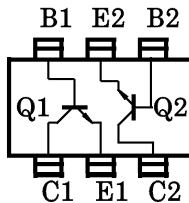


Weight : 0.008g

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 _{CB} = 10V, I _E = 0	—	—	1	μA
Emitter Cut-off Current	IEBO	V _{EB} = 1V, I _C = 0	—	—	1	μA
DC Current Gain	h _{FE}	V _{CE} = 6V, I _C = 7mA	50	—	160	—
Transition Frequency	f _T	V _{CE} = 6V, I _C = 7mA	7	10	—	GHz
Insertion Gain	S _{21e} ² (1)	V _{CE} = 6V, I _C = 7mA, f = 1000MHz	—	13	—	dB
	S _{21e} ² (2)	V _{CE} = 6V, I _C = 7mA, f = 2000MHz	4.5	7.5	—	dB
Noise Figure	NF (1)	V _{CE} = 6V, I _C = 3mA, f = 1000MHz	—	1.4	—	dB
	NF (2)	V _{CE} = 6V, I _C = 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 _{CB} = 10V, I _E = 0	—	—	1	μA
Emitter Cut-off Current	IEBO	V _{EB} = 1V, I _C = 0	—	—	1	μA
DC Current Gain	h _{FE}	V _{CE} = 6V, I _C = 7mA	50	—	160	—
Transition Frequency	f _T	V _{CE} = 10V, I _C = 20mA	7	10	—	GHz
Insertion Gain	S _{21e} ² (1)	V _{CE} = 10V, I _C = 20mA, f = 500MHz	—	13	—	dB
	S _{21e} ² (2)	V _{CE} = 10V, I _C = 20mA, f = 1000MHz	4.5	7.5	—	dB
Noise Figure	NF (1)	V _{CE} = 10V, I _C = 5mA, f = 500MHz	—	1.4	—	dB
	NF (2)	V _{CE} = 10V, I _C = 5mA, f = 1000MHz	—	1.8	3	dB

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