TENTATIVE

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN9C09FT

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

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

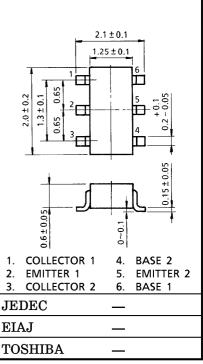
MOUNTED DEVICES

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

MAXIMUM RATINGS (Ta = 25°C)

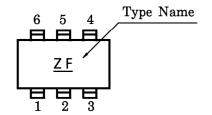
CHARACTERISTIC	SYMBOL	Q1/Q2	UNIT
Collector-Base Voltage	v_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	8	V
Emitter-Base Voltage	$V_{ m EBO}$	1.5	V
Collector Current	$I_{\mathbf{C}}$	15	mA
Base Current	$I_{ m B}$	7	mA
Collector Power Dissipation	$P_{\mathbf{C}}$	200	mW
Junction Temperature	T_{j}	125	°C
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	°C

Unit in mm

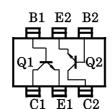


Weight: 0.008g

MARKING



PIN ASSIGNMENT (TOP VIEW)



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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	μ A
Emitter Cut-off Current	I_{EBO}	$V_{EB}=1V, I_{C}=0$	_	_	1	μ A
DC Current Gain	$_{ m h_{FE}}$	$V_{CE}=6V, I_{C}=7mA$	50	_	160	_
Transition Frequency	$\mathbf{f_T}$	$V_{CE}=6V, I_{C}=7mA$	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	μ A
Emitter Cut-off Current	I_{EBO}	$V_{EB}=1V, I_C=0$	I	_	1	μ A
DC Current Gain	$h_{ extbf{FE}}$	$V_{CE}=6V, I_{C}=7mA$	50	_	160	_
Transition Frequency	${ m f_T}$	$V_{CE} = 10V, I_{C} = 20mA$	7	10	_	GHz
Insertion Gain	$ S_{21e} ^2$ (1)	$V_{\text{CE}} = 10\text{V}, I_{\text{C}} = 20\text{mA}, \\ f = 500\text{MHz}$		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	1.4	_	dB
	NF (2)	$V_{CE} = 10V, I_{C} = 5mA, f = 1000MHz$	_	1.8	3	dB

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