

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN3C10FE

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

- Two devices are built in to the super-thin and extreme super mini (6pins) package : ES6

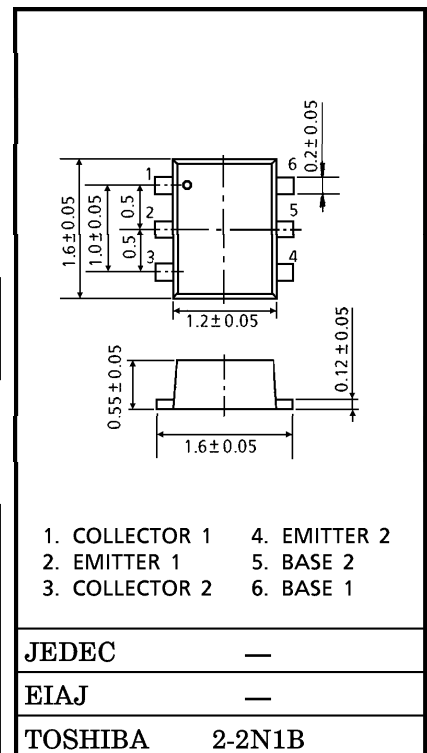
MOUNTED DEVICES

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

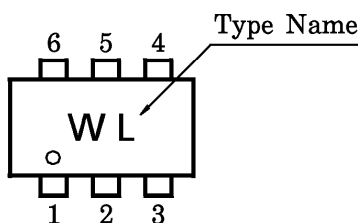
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	Q1 / Q2	UNIT
Collector-Base Voltage	V _{CB0}	20	V
Collector-Emitter Voltage	V _{CE0}	12	V
Emitter-Base Voltage	V _{EB0}	3	V
Collector Current	I _C	80	mA
Base Current	I _B	40	mA
Collector Power Dissipation	P _C (Note 1)	100	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

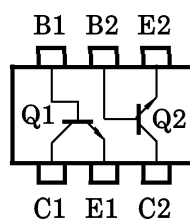
(Note 1) : Total power dissipation of Q1 and Q2.



MARKING



PIN ASSIGNMENT (TOP VIEW)



961001EAA1

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ELECTRICAL CHARACTERISTICS (Ta = 25°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}	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$	80	—	240	—
Transition Frequency	f_T	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$	5	7	—	GHz
Insertion Gain	$ S_{21e} ^2$ (1)	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA},$ $f = 500\text{ MHz}$	—	16.5	—	dB
	$ S_{21e} ^2$ (2)	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA},$ $f = 1000\text{ MHz}$	8	11.5	—	
Noise Figure	NF (1)	$V_{CE} = 10\text{ V}, I_C = 5\text{ mA},$ $f = 500\text{ MHz}$	—	1	—	dB
	NF (2)	$V_{CE} = 10\text{ V}, I_C = 5\text{ mA},$ $f = 1000\text{ MHz}$	—	1.1	2	
Reverse Transfer Capacitance Q1	C_{re}	$V_{CB} = 10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$ (Note 2)	—	0.7	1.2	pF
Reverse Transfer Capacitance Q2	C_{re}	$V_{CB} = 10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$ (Note 2)	—	0.65	1.15	pF

(Note 2) : C_{re} is measured by 3 terminal method with capacitance bridge.