

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

# HN3C12FU

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

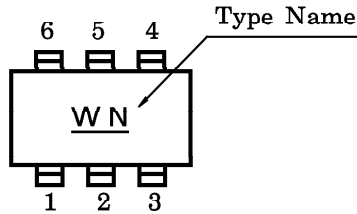
- Including Two Devices in US6 (Ultra Super Mini Type with 6 Leads)

MAXIMUM RATINGS (Ta = 25°C)

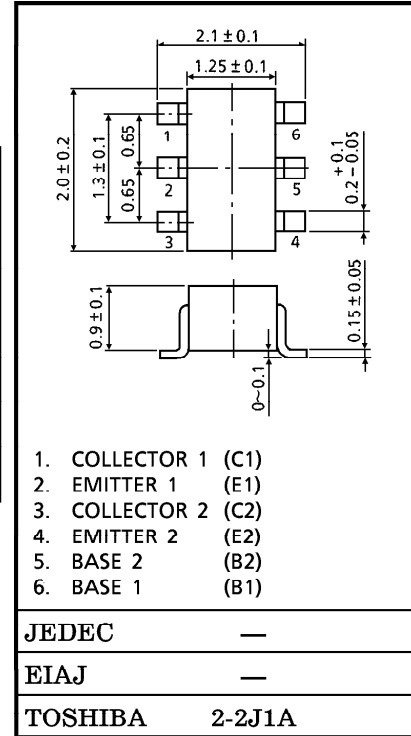
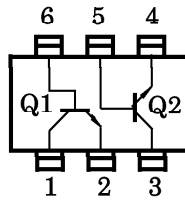
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	20	V
Collector-Emitter Voltage	V <sub>CEO</sub>	10	V
Emitter-Base Voltage	V <sub>EB0</sub>	1.5	V
Base Current	I <sub>B</sub>	7	mA
Collector Current	I <sub>C</sub>	15	mA
Collector Power Dissipation	P <sub>C*</sub>	200	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C

\* : Total

MARKING



PIN ASSIGNMENT (TOP VIEW)



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I <sub>CB0</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0	—	—	1	μA
Emitter Cut-off Current	I <sub>EB0</sub>	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>	V <sub>CE</sub> = 6V, I <sub>C</sub> = 7mA, f = 2GHz	4	7	—	dB
Noise Figure	NF	V <sub>CE</sub> = 6V, I <sub>C</sub> = 3mA, f = 2GHz	—	1.8	3	dB
Reverse Transfer Capacitance Q1	C <sub>re</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz (Note)	—	0.4	0.9	pF
Reverse Transfer Capacitance Q2	C <sub>re</sub>		—	0.35	0.85	pF

(Note) C<sub>re</sub> is measured by 3 terminal method capacitance bridge.

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