

TOSHIBA

HN3C11F

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN3C11F

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

- Including Two Devices in SM6 (Super Mini Type with 6 Leads)

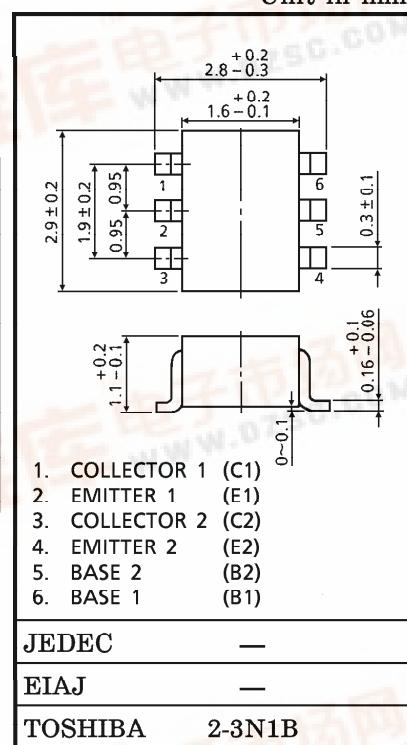
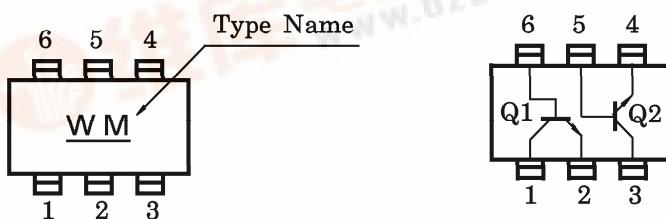
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Base Voltage	V_{EBO}	1.5	V
Collector Current	I_C	40	mA
Base Current	I_B	20	mA
Collector Power Dissipation	P_C^*	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$

* : Total

MARKING

PIN ASSIGNMENT (TOP VIEW)

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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}	$V_{CE} = 8\text{V}$, $I_C = 20\text{mA}$	50	—	160	—
Transition Frequency	f_T	$V_{CE} = 8\text{V}$, $I_C = 20\text{mA}$	7	10	—	GHz
Insertion Gain	$ S_{21} ^2$	$V_{CE} = 8\text{V}$, $I_C = 20\text{mA}$, $f = 2\text{GHz}$	3.5	7	—	dB
Noise Figure	NF	$V_{CE} = 8\text{V}$, $I_C = 5\text{mA}$, $f = 2\text{GHz}$	—	1.7	3	dB
Reverse Transfer Capacitance Q1	C_{re}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$ (Note)	—	0.7	1.2	pF
Reverse Transfer Capacitance Q2	C_{re}		—	0.65	1.15	pF

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

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