

**TOSHIBA****HN3C02F**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

**HN3C02F**

TV TUNER, UHF OSCILLATOR APPLICATION.

TV TUNER, UHF CONVERTER APPLICATION.

- Including Two Devices in SM6 (Super Mini Type with 6Leads)
- High Transition Frequency :  $f_T = 2400\text{MHz}$  (Typ.)

MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ ) ( $Q_1, Q_2$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	30	V
Collector-Emitter Voltage	$V_{CE0}$	15	V
Emitter-Base Voltage	$V_{EB0}$	3	V
Collector Current	$I_C$	50	mA
Base Current	$I_B$	25	mA
Collector Power Dissipation	$P_C^*$	300	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-55 \sim 125$	$^\circ\text{C}$

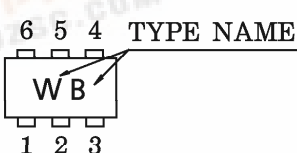
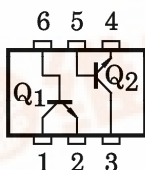
\* Total

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ ) ( $Q_1, Q_2$ )

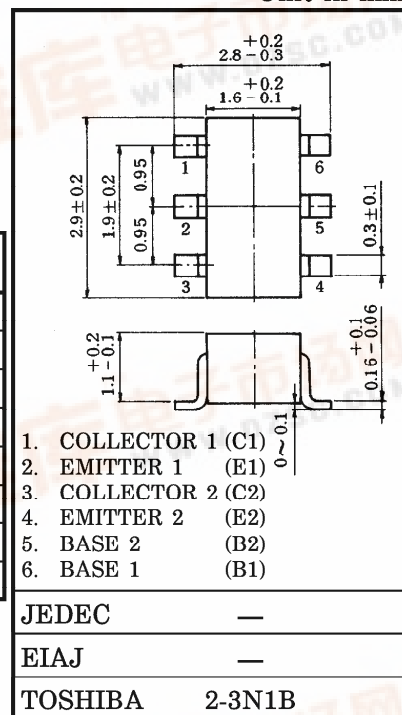
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 2\text{V}, I_C = 0$	—	—	1.0	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	15	—	—	V
DC Current Gain	$h_{FE}$	$V_{CE} = 10\text{V}, I_E = 5\text{mA}$	40	—	200	—
Transition Frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 2\text{mA}, f = 800\text{MHz}$	1500	2400	—	MHz
Reverse Transfer Capacitance $Q_1$	$C_{re(1)}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	—	0.53	0.85	pF
Reverse Transfer Capacitance $Q_2$	$C_{re(2)}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	—	0.48	0.80	pF
Collector-Base Time Constant $Q_1$	$C_c \cdot r_{bb'}(1)$	$V_{CB} = 10\text{V}, I_C = 2\text{mA}, f = 30\text{MHz}$	—	15.0	22.0	ps
Collector-Base Time Constant $Q_2$	$C_c \cdot r_{bb'}(2)$	$V_{CB} = 10\text{V}, I_C = 2\text{mA}, f = 30\text{MHz}$	—	14.5	21.5	ps

PIN ASSIGNMENT (TOP VIEW)

MARKING



Unit in mm



961001FAA2

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