TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

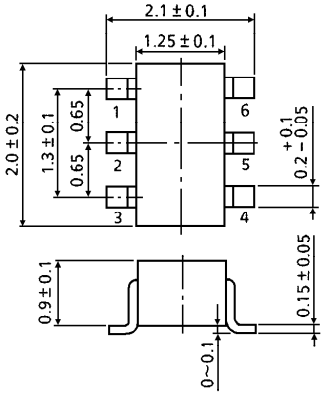
HN3C03FU

TV TUNER, UHF OSCILLATOR APPLICATION
TV UHF RF AMPLIFIER APPLICATION

(COMMON COLLECTOR)

- Including Two Devices in US6
- Output Capacitance : C_{ob} = 1.2pF (Typ.)
- High Transition Frequency : f_T = 4.0GHz (Typ.)

Unit in mm



1. COLLECTOR 1 (C1)
2. EMITTER 1 (E1)
3. COLLECTOR 2 (C2)
4. EMITTER 2 (E2)
5. BASE 2 (B2)
6. BASE 1 (B1)

JEDEC	—
EIAJ	—
TOSHIBA	2-2JIA

MAXIMUM RATINGS (Ta = 25°C) (Q_1, Q_2)

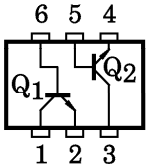
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	30	mA
Base Current	I_B	15	mA
Collector Power Dissipation	P_C*	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

* : Total

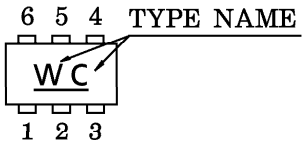
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q_1, Q_2)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 10V, I_E = 0	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 2V, I_C = 0	—	—	1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	12	—	—	V
DC Current Gain	h_{FE}	V_{CE} = 10V, I_E = 5mA	35	—	130	—
Transition Frequency	f_T	V_{CE} = 10V, I_C = 10mA, f = 1GHz	2.6	4.0	—	GHz
Output Capacitance Q_1	C_{ob} (1)	V_{CB} = 10V, I_E = 0, f = 1MHz	—	1.2	1.55	pF
Output Capacitance Q_2	C_{ob} (2)	V_{CB} = 10V, I_E = 0, f = 1MHz	—	1.0	1.35	pF
Collector-Base Time Constant Q_1	$C_c \cdot r_{bb'}$ (1)	V_{CB} = 10V, I_C = 5mA, f = 30MHz	—	3.2	8.5	ps
Collector-Base Time Constant Q_2	$C_c \cdot r_{bb'}$ (2)	V_{CB} = 10V, I_C = 5mA, f = 30MHz	—	2.7	8.0	ps

PIN ASSIGNMENT (TOP VIEW)



MARKING



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