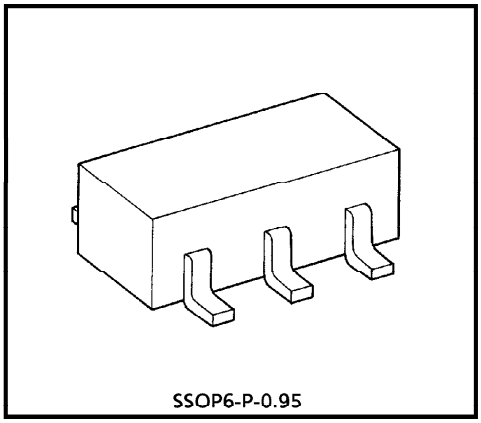
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA4100F

UHF VHF RF, MIX APPLICATION

FEATURES

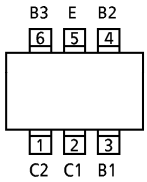
- High f_T. (f_T = 5GHz)
- Differential Circuit is Composed of 3 Transistors.



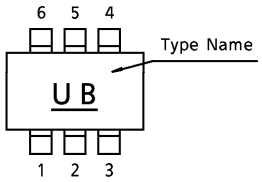
SSOP6-P-0.95

Weight : 0.013g (Typ.)

PIN ASSIGNMENT (TOP VIEW)



MARKING



C ... COLLECTOR
B ... BASE
E ... EMITTER

MAXIMUM RATING (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	10	V
Collector-Emitter Voltage	V_{CEO}	5	V
Collector Current	I_C	15 (*1) , 30 (*2)	mA
Total Power Dissipation	P_D (*3)	300	mW
Operating Temperature	T_{opr}	−40~85	°C
Storage Temperature Range	T_{stg}	−55~125	°C

(*1) Q1, Q2 (*2) Q3

(*3) When mounted on the glass epoxy board of 2.5cm^2 × 1.6t

961001EBA2

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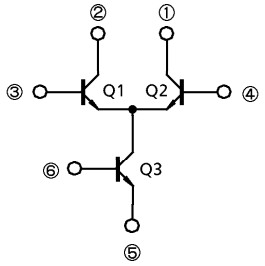
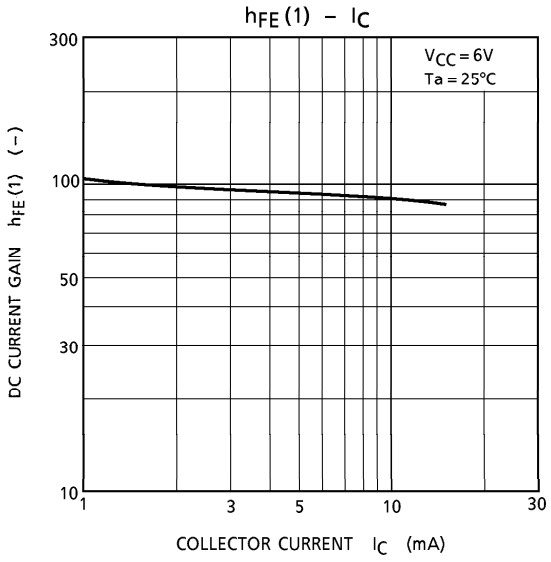
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

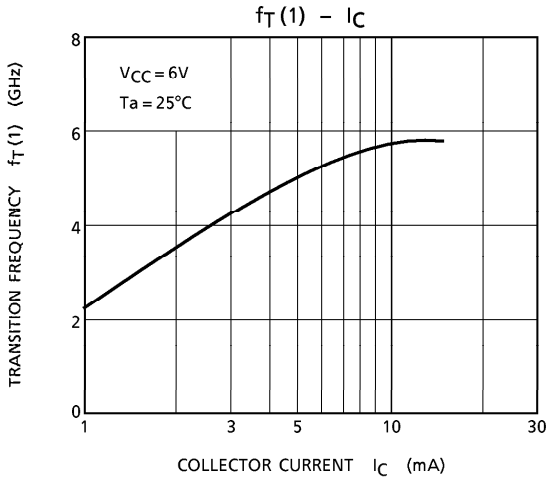
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Voltage	V_{CEO} (1)	—	I_{C1} = 1.0mA, (I_{B3} = 1mA)	5	—	—	V
	V_{CEO} (2)	—	I_{C2} = 1.0mA, (I_{B3} = 1mA)	5	—	—	
	V_{CEO} (3)	—	I_{B1} (I_{C3}) = 1.0mA	5	—	—	
DC Current Gain	h_{FE} (1)	—	V_{C1} = 6V, I_{C1} = 5mA, (I_{B3} = 1mA)	50	100	160	—
	h_{FE} (2)	—	V_{C2} = 6V, I_{C1} = 5mA, (I_{B3} = 1mA)	50	100	160	
	h_{FE} (3)	—	V_{B1} (V_{C3}) = 6V, I_{B1} (I_{C3}) = 10mA	70	140	250	
Transition Frequency	f_T (1)	—	V_{C1} = 6V, I_{C1} = 5mA, (I_{B3} = 1mA)	3.5	5.0	7.0	GHz
	f_T (2)	—	V_{C2} = 6V, I_{C2} = 5mA, (I_{B3} = 1mA)	3.5	5.0	7.0	
	f_T (3)	—	V_{B1} (V_{C3}) = 4V, I_{B1} (I_{C3}) = 10mA	3.5	5.0	7.0	

※ (1) ... Characteristics of Q1
(2) ... Characteristics of Q2
(3) ... Characteristics of Q3

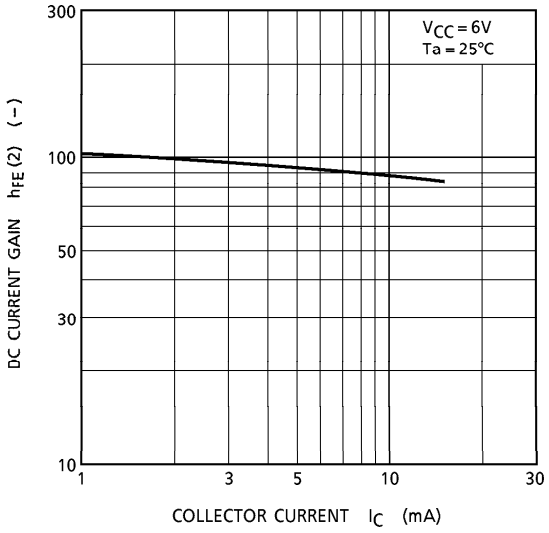
EQUIVALENT CIRCUIT



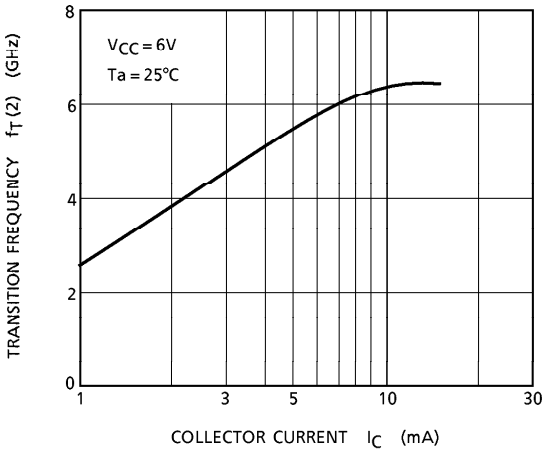




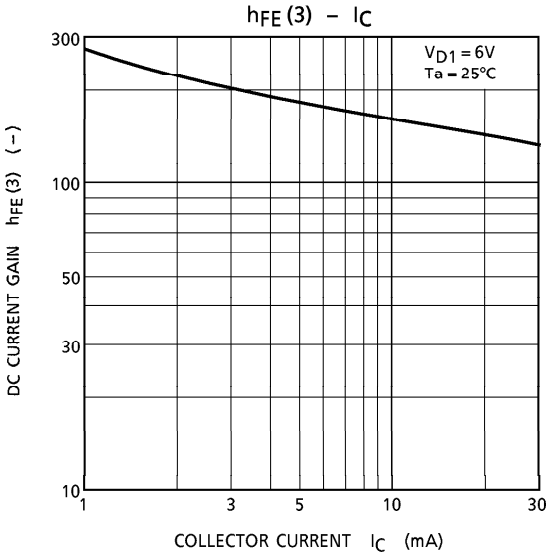
h_{FE} (2) – I_C



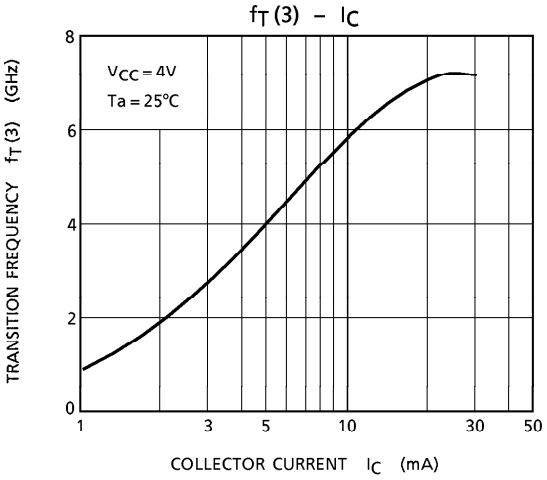
f_T (2) – I_C



h_{FE} (3) – I_C



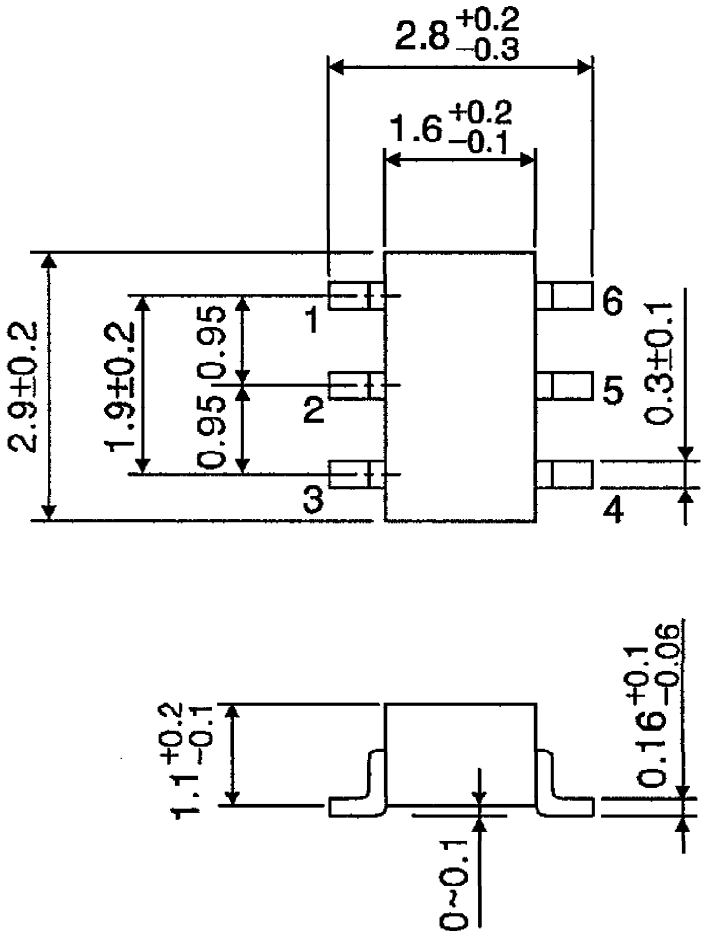
f_T (3) – I_C



OUTLINE DRAWING

SSOP6-P-0.95

Unit : mm



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