

TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

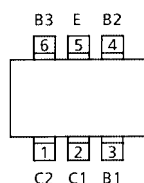
TA4100F

UHF VHF RF, MIX Application

Features

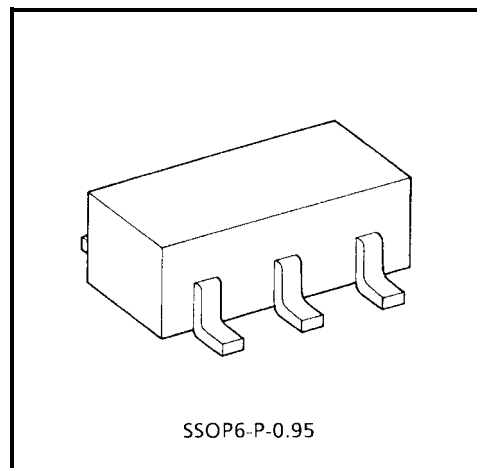
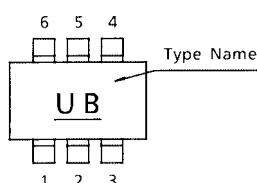
- High f_T . ($f_T = 5 \text{ GHz}$)
- Differential circuit is composed of 3 transistors.

Pin Assignment (top view)



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

Marking



Weight: 0.013 g (typ.)

000707EBA1

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Maximum Ratings (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 (Note 1)	mA
		30 (Note 2)	
Total power dissipation	P _D (Note3)	300	mW
Operating temperature	T _{opr}	-40~85	°C
Storage temperature range	T _{stg}	-55~125	°C

Note 1: Q1, Q2

Note 2: Q3

Note 3: When mounted on the glass epoxy board of 2.5 cm² × 1.6 t

Electrical Characteristics (Ta = 25°C)

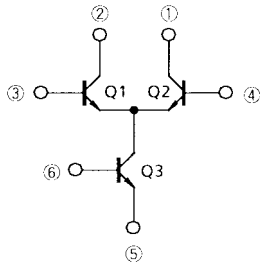
Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Collector-emitter voltage	V _{CEO} (1)	—	I _{C1} = 1.0 mA, I _{B3} = 1 mA (Note 4)	5	—	—	V
	V _{CEO} (2)	—	I _{C2} = 1.0 mA, I _{B3} = 1 mA (Note 5)	5	—	—	
	V _{CEO} (3)	—	I _{B1} (I _{C3} = 1.0 mA) (Note 6)	5	—	—	
DC Current gain	h _{FE} (1)	—	V _{C1} = 6 V, I _{C1} = 5 mA, I _{B3} = 1 mA (Note 4)	50	100	160	—
	h _{FE} (2)	—	V _{C2} = 6 V, I _{C1} = 5 mA, I _{B3} = 1 mA (Note 5)	50	100	160	
	h _{FE} (3)	—	V _{B1} (V _{C3}) = 6 V, I _{B1} (I _{C3}) = 10 mA (Note 6)	70	140	250	
Transition Frequency	f _T (1)	—	V _{C1} = 6 V, I _{C1} = 5 mA, I _{B3} = 1 mA (Note 4)	3.5	5.0	7.0	GHz
	f _T (2)	—	V _{C2} = 6 V, I _{C2} = 5 mA, I _{B3} = 1 mA (Note 5)	3.5	5.0	7.0	
	f _T (3)	—	V _{B1} (V _{C3}) = 4 V, I _{B1} (I _{C3}) = 10 mA (Note 6)	3.5	5.0	7.0	

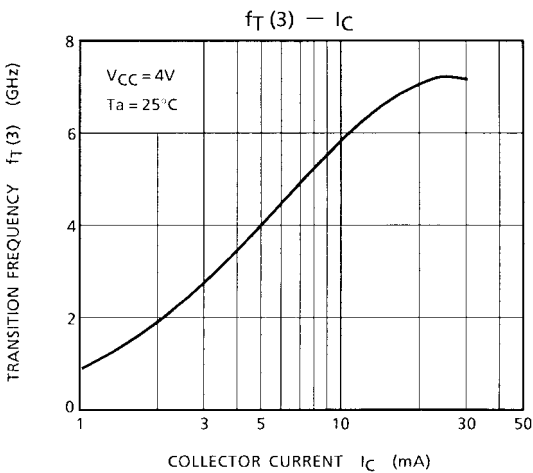
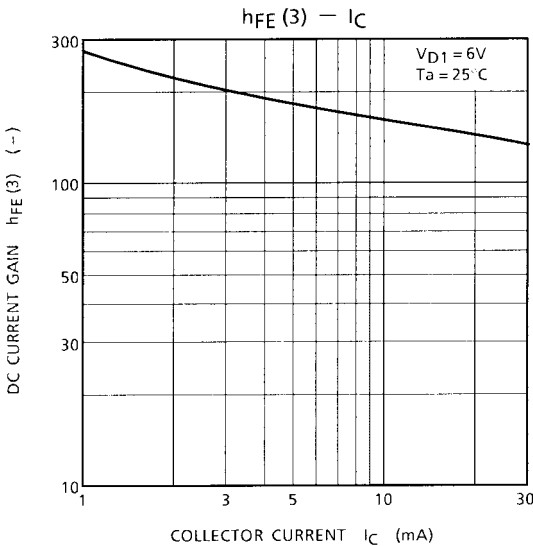
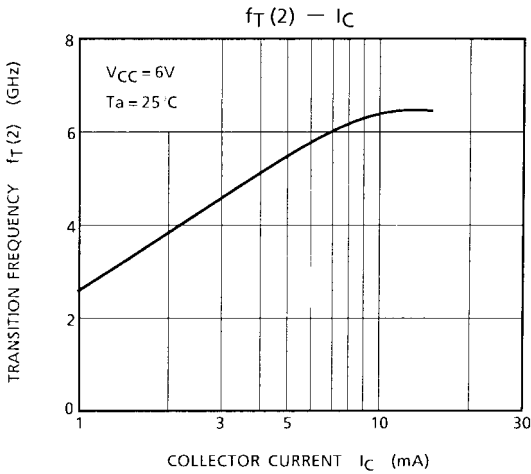
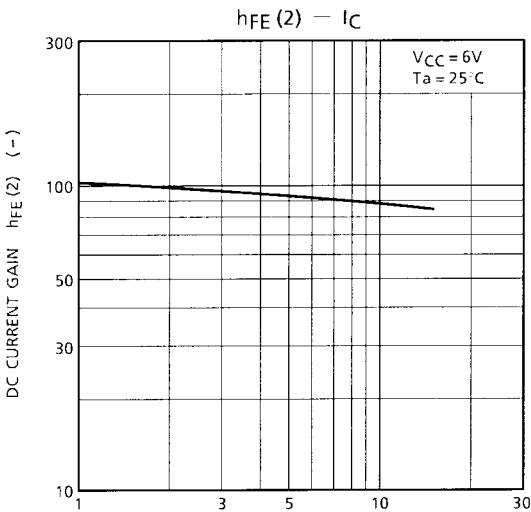
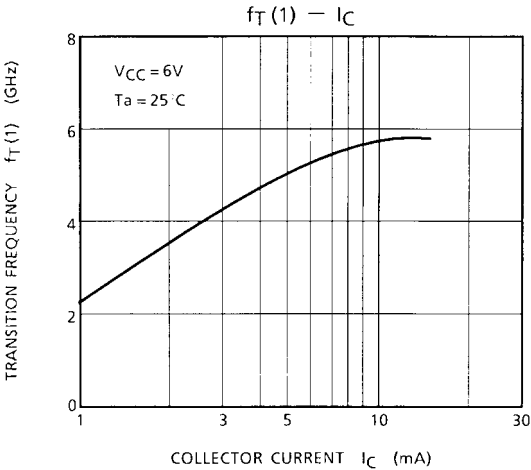
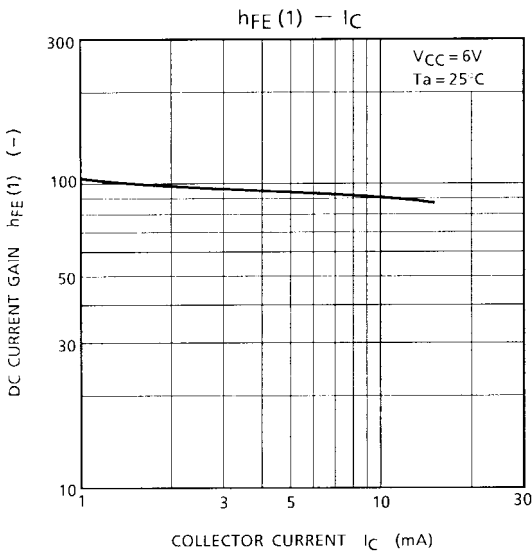
Note 4: Characteristics of Q1

Note 5: Characteristics of Q2

Note 6: Characteristics of Q3

Equivalent Circuit

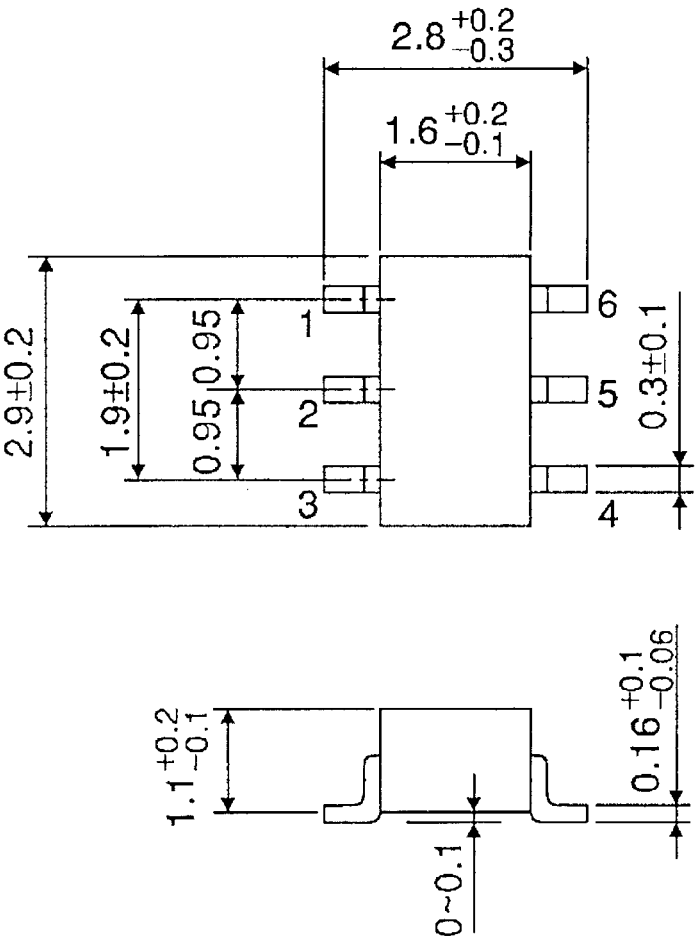




Package Dimensions

SSOP6-P-0.95

Unit : mm



Weight : 0.013g (Typ.)