

# Low frequency amplifier

## US6T4

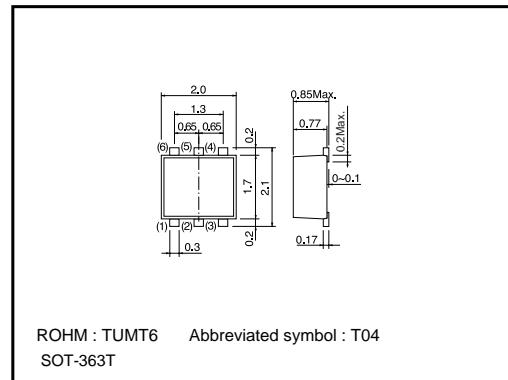
### ●Application

Low frequency amplifier  
Driver

### ●Features

- 1) A collector current is large.
- 2)  $V_{CE(sat)}$  : max. -250mV  
At  $I_C = -1.5A$  /  $I_B = -30mA$

### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings ( $T_a=25^\circ C$ )

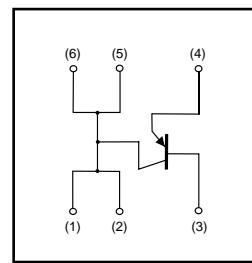
Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	-15	V
Collector-emitter voltage	$V_{CEO}$	-12	V
Emitter-base voltage	$V_{EBO}$	-6	V
Collector current	$I_C$	-3	A
	$I_{CP}$	-6	A *1
Power dissipation	$P_C$	400	mW *2
		1.0	W *3
Junction temperature	$T_j$	150	°C
Range of storage temperature	$T_{stg}$	-55 to +150	°C

\*1 Single pulse,  $P_w=1ms$

\*2 Each Terminal Mounted on a Recommended

\*3 Mounted on a 25mm×25mm×0.8mm Ceramic substrate.

### ●Equivalent circuit



### ●Electrical characteristics ( $T_a=25^\circ C$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-15	-	-	V	$I_C = -10\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-12	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-6	-	-	V	$I_E = -10\mu A$
Collector cutoff current	$I_{CBO}$	-	-	-100	nA	$V_{CB} = -15V$
Emitter cutoff current	$I_{EBO}$	-	-	-100	nA	$V_{EB} = -6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-120	-250	mV	$I_C = -1.5A$ , $I_B = -30mA$
DC current gain	$h_{FE}$	270	-	680	-	$V_{CE} = -2V$ , $I_C = -500mA$ *
Transition frequency	$f_T$	-	280	-	MHz	$V_{CE} = -2V$ , $I_E = 500mA$ , $f = 100MHz$ *
Collector output capacitance	$C_{ob}$	-	30	-	pF	$V_{CB} = -10V$ , $I_E = 0A$ , $f = 1MHz$

\* Pulsed

## Transistors

## ●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
US6T4		○

## ●Electrical characteristic curves

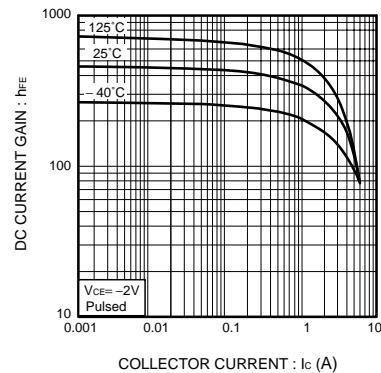


Fig1. DC current gain vs. collector current

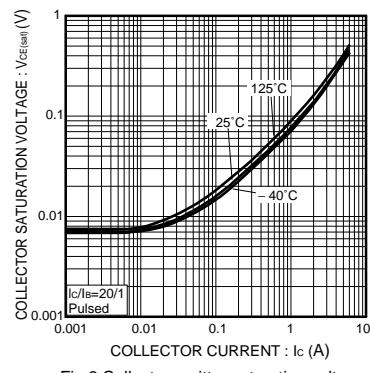


Fig.2 Collector-emitter saturation voltage vs. collector current

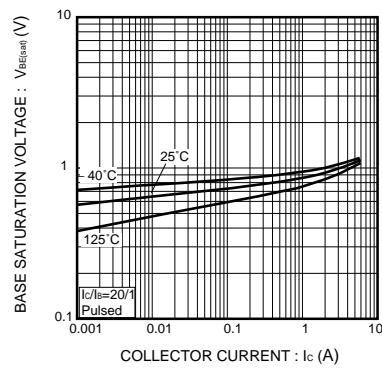


Fig.3 Base-emitter saturation voltage vs. collector current

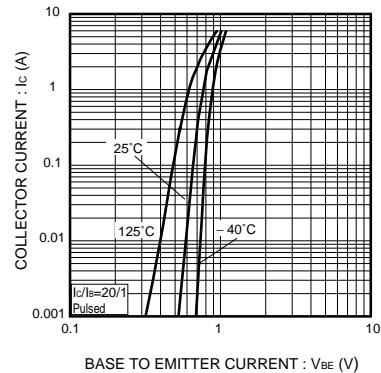


Fig.4 Grounded emitter propagation characteristics

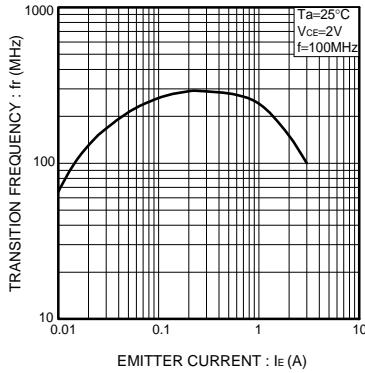
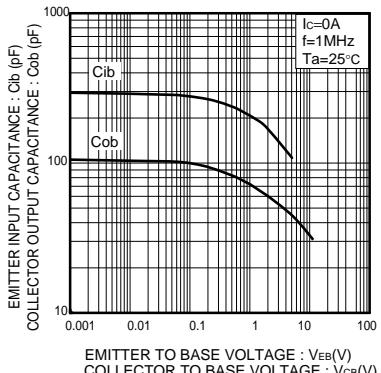


Fig.5 Gain bandwidth product vs. emitter current

Fig.6. Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

## Appendix

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