Low frequency amplifier

US6T6

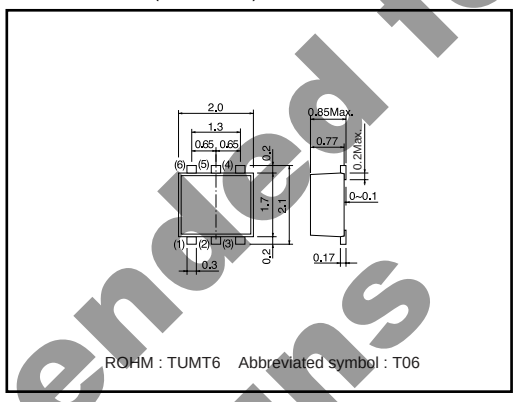
●Application

Low frequency amplifier
Driver

●Features

1) A collector current is large.
2) $V_{CE(sat)} \leqq -180mV$
   At $I_C = -1A$ / $I_B = -50mA$

●Dimensions (Unit : mm)



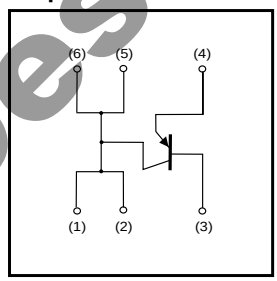
ROHM : TUMT6 Abbreviated symbol : T06

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–30	V
Collector-emitter voltage	V_{CEO}	–30	V
Emitter-base voltage	V_{EBO}	–6	V
Collector current	I_C	–2	A
	I_{CP}	–4	A ∗1
Power dissipation	P_C	400	mW ∗2
		1.0	W ∗3
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	–55 to +150	°C

∗1 Single pulse, Pw=1ms
∗2 Each terminal mounted on a recommended
∗3 Mounted on a 25mm×25mm×^{t}0.8mm Ceramic substrate.

●Equivalent circuit



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–15	–	–	V	I_C=–10μA
Collector-emitter breakdown voltage	BV_{CEO}	–12	–	–	V	I_C=–1mA
Emitter-base breakdown voltage	BV_{EBO}	–6	–	–	V	I_E=–10μA
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	–180	mV	I_C=–1A, I_B=–50mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}=–2V, I_C=–200mA ∗
Transition frequency	f_T	–	360	–	MHz	V_{CE}=–2V, I_E=200mA, f=100MHz ∗
Collector output capacitance	Cob	–	15	–	pF	V_{CB}=–10V, I_E=0A, f=1MHz

∗ Pulsed

●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
US6T6		○

●Electrical characteristic curves

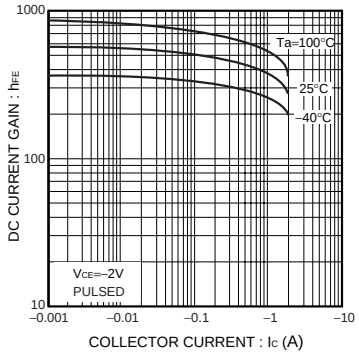


Fig1. DC current gain vs.collector current

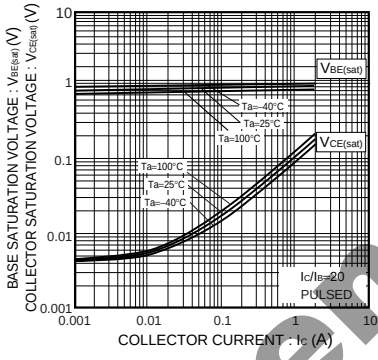


Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs.collector current

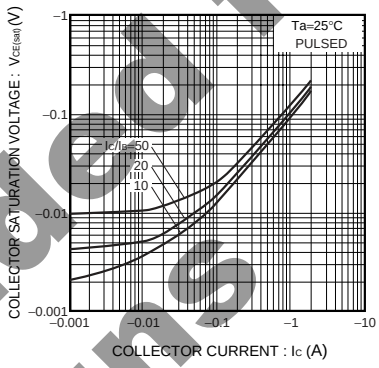


Fig.3 Collector-emitter saturation voltage vs.collector current

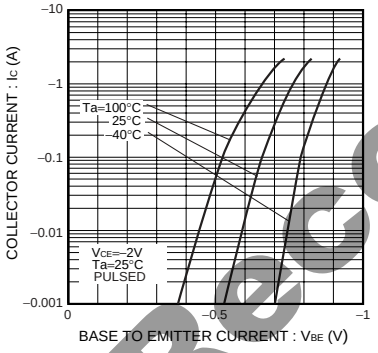


Fig.4 Grounded emitter propagation characteristics

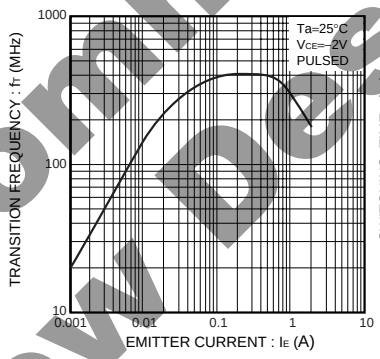


Fig.5 Gain bandwidth product vs.emitter current

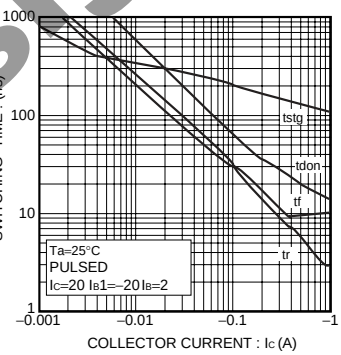


Fig.6 Switching time

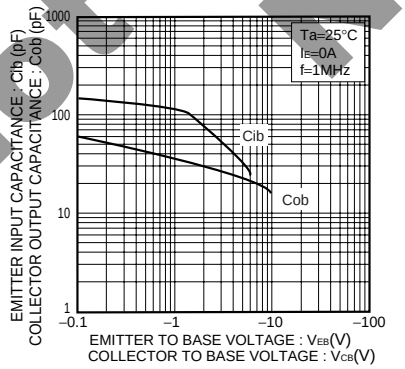


Fig7. Collector output capacitance vs.collector-base voltage
Emitter input capacitance vs.emitter-base voltage

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