

General purpose amplification (–12V, –1.5A)

US6T8

●Application

Low frequency amplifier

Driver

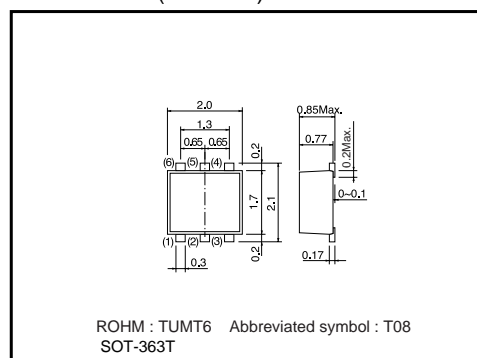
●Features

- 1) A collector current is large.
- 2) Collector saturation voltage is low.

$$V_{CE(sat)} \leq -200\text{mV}$$

$$\text{At } I_C = -500\text{mA} / I_B = -25\text{mA}$$

●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

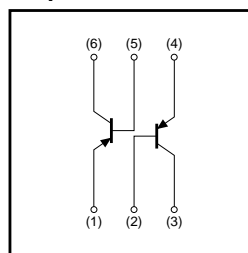
Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	–15	V
Collector-emitter voltage	V _{CEO}	–12	V
Emitter-base voltage	V _{EBO}	–6	V
Collector current	I _C	–1.5	A
	I _{CP}	–3	A *1
Power dissipation	P _C	400	mW/TOTAL *2
		1.0	W/TOTAL *3
		0.7	W/ELEMENT *3
Junction temperature	T _J	150	°C
Range 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×1.0.8mm Ceramic substrate

●Equivalent circuit



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	–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 _{CB0}	–	–	–100	nA	V _{CB} = –15V
Emitter cutoff current	I _{EBO}	–	–	–100	nA	V _{EB} = –6V
Collector-emitter saturation voltage	V _{CE(sat)}	–	–85	–200	mV	I _C = –500mA, I _B = –25mA
DC current gain	h _{FE}	270	–	680	–	V _{CE} = –2V, I _C = –200mA *
Transition frequency	f _r	–	400	–	MHz	V _{CE} = –2V, I _E = 200mA, f = 100MHz *
Corrector output capacitance	C _{ob}	–	12	–	pF	V _{CB} = –10V, I _E = 0A, f = 1MHz

*Pulsed

Transistors

●Packaging specifications

Type	Package	Taping
	Code	TR
	Basic ordering unit (pieces)	3000
US6T8		○

●Electrical characteristic curves

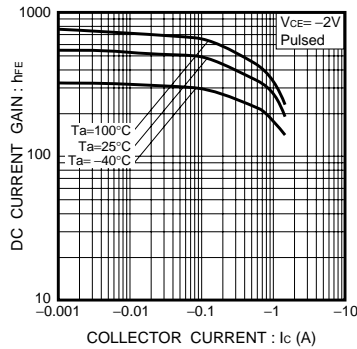


Fig.1 DC current gain vs. collector current

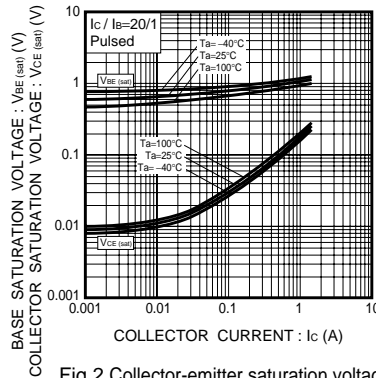


Fig.2 Collector-emitter saturation voltage vs. collector current

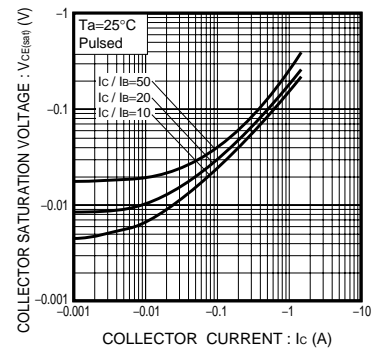


Fig.3 Collector-emitter saturation voltage vs. collector current

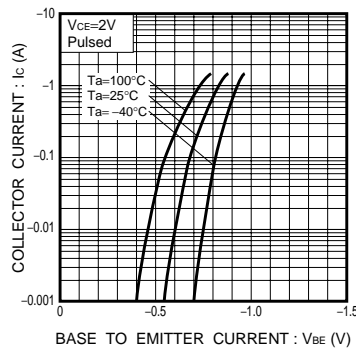


Fig.4 Grounded emitter propagation characteristics

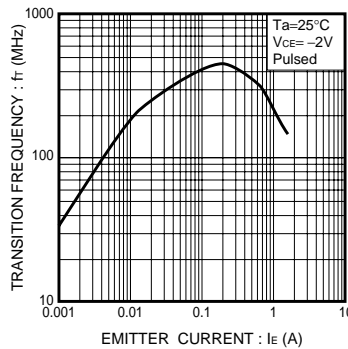


Fig.5 Gain bandwidth product vs. emitter current

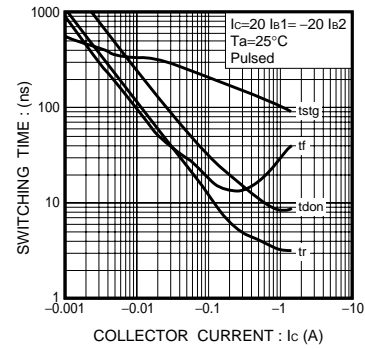


Fig.6 Switching time

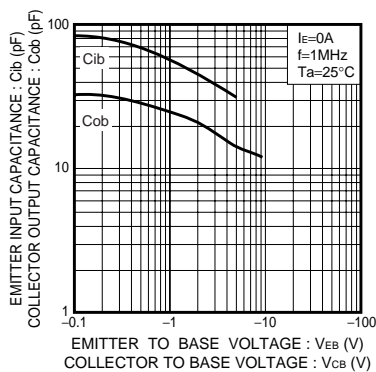


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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