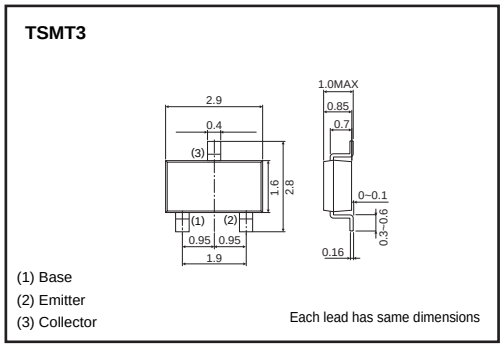
Low frequency amplifier

2SB1706

●**Application**
Low frequency amplifier
Driver

●**Features**
1) A collector current is large.
2) $V_{CE(sat)} \leq$ -370mV
At Ic= -1.5A / I_B= -75mA

●**External dimensions** (Unit : mm)



●**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	500	mW*2
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

●**Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–30	–	–	V	I_C= –10μA
Collector-emitter breakdown voltage	BV_{CEO}	–30	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–6	–	–	V	I_E= –10μA
Collector cutoff curent	I_{CBO}	–	–	–100	nA	V_{CB}= –30V
Emitter cutoff current	I_{EBO}	–	–	–100	nA	V_{EB}= –6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–180	–370	mV	I_C= –1.5A, I_B= –75mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}= –2V, I_C= –200mA
Transition frequency	f_T	–	280	–	MHz	V_{CE}= –2V, I_E=200mA, f=100MHz
Collector output capacitance	Cob	–	20	–	pF	V_{CB}= –10V, I_E=0A, f=1MHz

●Packaging specifications

Type	package	Taping
	Code	TL
	Basic ordering unit(pieces)	3000
2SB1706		○

●Electrical characteristic curves

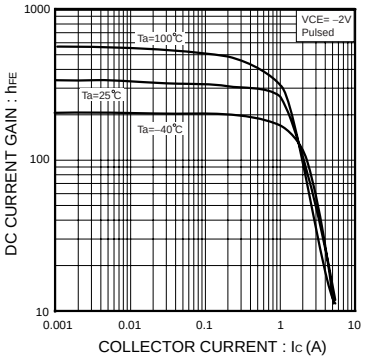


Fig.1 DV current gain vs. collector current

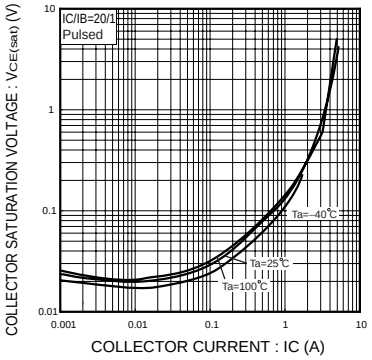


Fig.2 Collector-emitter saturation voltage vs. collector current

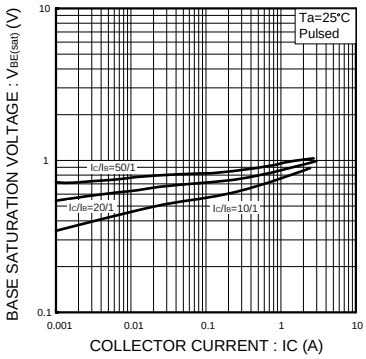


Fig.3 Base-emitter saturation voltage vs. collectir current

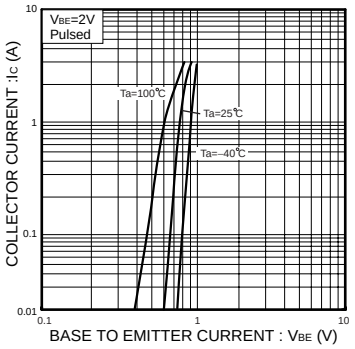


Fig.4 Grounded emitter propagation characteristics

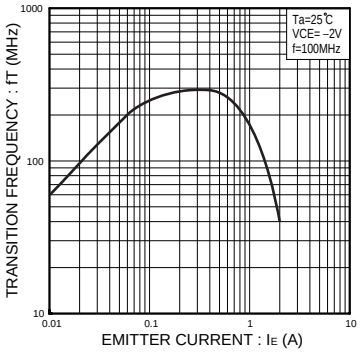


Fig.5 Gain bandwidth product vs. emitter curent

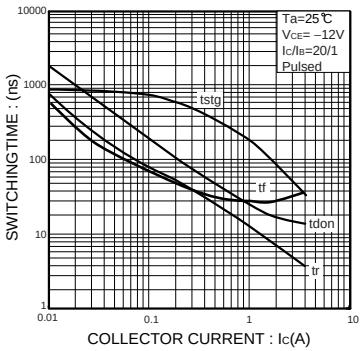


Fig.6 Switching time

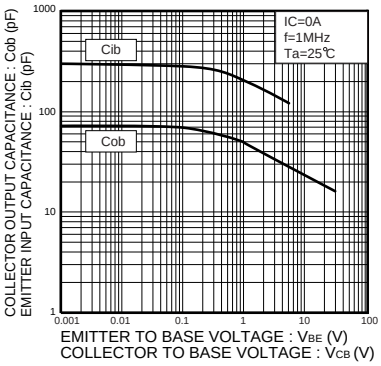


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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