

2SB1710

Low frequency amplifier
Driver

- 1) A collector current is large.
- 2) Collector saturation voltage is low.
 $V_{CE(sat)} \leq -350\text{mV}$
at $I_C = -500\text{mA} / I_B = -25\text{mA}$

The drawing shows a component with the following dimensions:

- Top View:**
 - Overall width: 2.9
 - Distance from left edge to emitter lead center: 0.95
 - Distance between emitter and collector leads: 1.9
 - Distance from emitter lead center to right edge: 0.95
 - Base lead width: 0.4
 - Base lead thickness: 0.16
 - Base lead position tolerance: $0-0.1$
- Side View:**
 - Overall height: 1.0 MAX
 - Distance from top to emitter lead: 0.85
 - Emitter lead height: 0.7
 - Collector lead height: 0.3
 - Base lead height: 0.16

Legend:

- (1) Base
- (2) Emitter
- (3) Collector

Each lead has same dimensions

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	-1	A
	I_{CP}	-2	A*1
Power dissipation	P_C	500	mW*2
Junction temperature	T_j	150	°C
Range of storage temperature	T_{sta}	-55~+150	°C

*1 Single pulse, $P_w=1\text{ms}$

*2Each Terminal Mounted on a Recommended

Type	Package	Taping
	Code	TL
	Basic ordering unit (pieces)	3000
2SB1710		○

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-30	-	-	V	$I_C = -10\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-30	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	-6	-	-	V	$I_E = -10\mu A$
Collector cutoff current	I_{CBO}	-	-	-100	nA	$V_{CB} = -30V$
Emitter cutoff current	I_{EBO}	-	-	-100	nA	$V_{EB} = -6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-150	-350	mV	$I_C = -500mA, I_B = -25mA$
DC current gain	h_{FE}	270	-	680	-	$V_{CE} = -2V, I_C = -100mA$ *
Transition frequency	f_r	-	320	-	MHz	$V_{CE} = -2V, I_E = 100mA, f = 100MHz$
Corrector output capacitance	C_{ob}	-	7	-	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

* Pulsed

Transistors

●Electrical characteristic curves

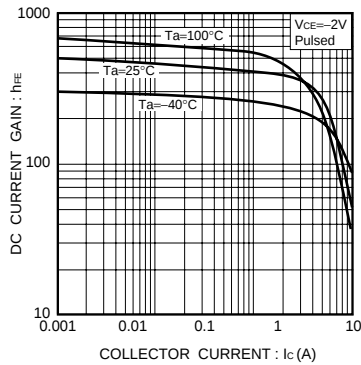


Fig.1 DC current gain vs. collector current

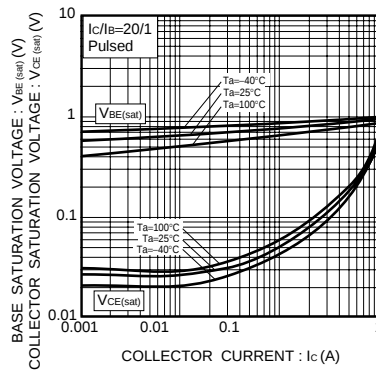


Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs. collector current

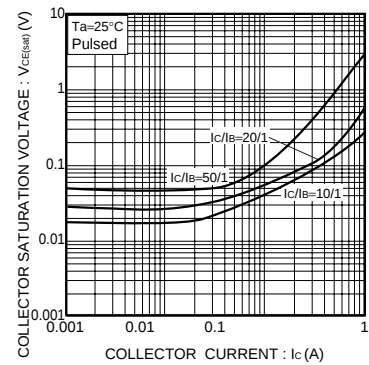


Fig.3 Collector-emitter saturation voltage vs. collector current

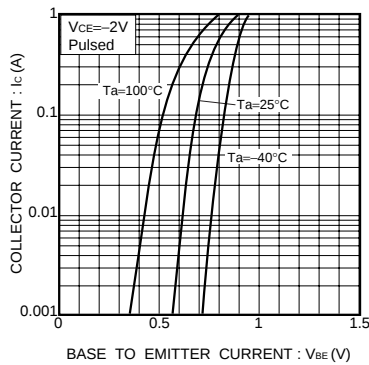


Fig.4 Grounded emitter propagation characteristics

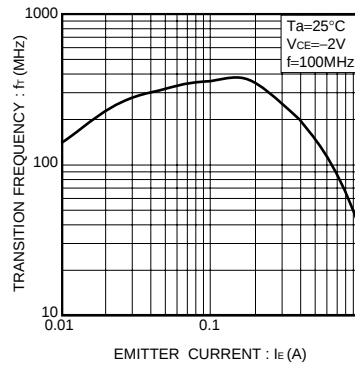


Fig.5 Gain bandwidth product vs. emitter current

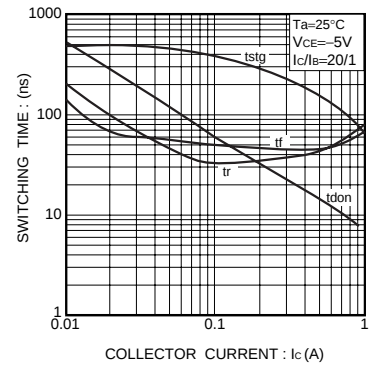
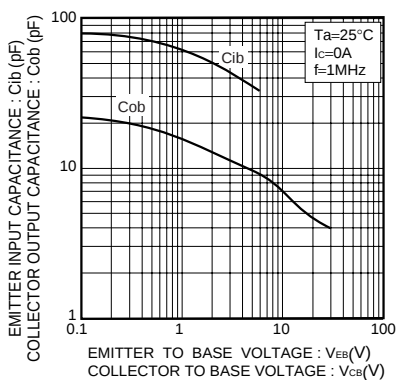


Fig.6 Switching time

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

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