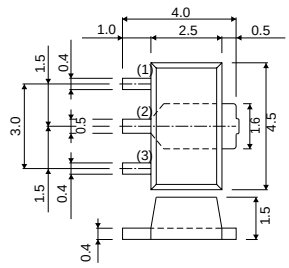
Low Frequency Amplifier (-12V, -2A)

2SB1697

●Features

Low $V_{CE(sat)}$
$V_{CE(sat)} \leq -180mV$
(I_C /I_B=−1A/−50mA)

●External dimensions (Unit : mm)



Each lead has same dimensions

Abbreviated symbol: FV

ROHM : MPT3
JEITA : SC-62
JEDEC: SOT-89

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

●Absolute maximum ratings (Ta=25°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	–2	A(DC)
		–4	A(Pulse)*1
Collector power dissipation	P_C	500	mW*2
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

*1 Single pulse, P_W=1ms
*2 When mounted on a 40x40x0.7 mm ceramic board.

●Packaging specifications

Type	Package	Taping
	Code	T100
	Basic ordering unit (pieces)	1000
2SB1697		○

●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	$V_{CE(sat)}$	–	–100	–180	mV	I_C/I_B= –1A/ –50mA
DC current transfer ratio	h_{FE}	270	–	680	–	V_{CE}= –2V, I_C= –200mA*
Transition frequency	f_T	–	360	–	MHz	V_{CE}= –2V, I_E=200mA, f=100MHz*
Output capacitance	Cob	–	15	–	pF	V_{CB}=–10V, I_E=0A, f=1MHz

* Pulsed

●**Electrical characteristic curves**

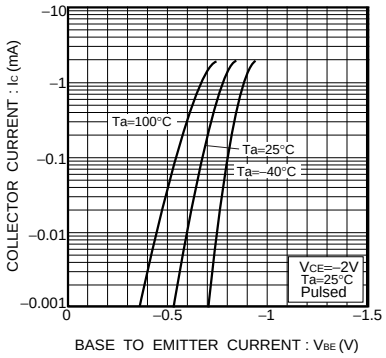


Fig.1 Grounded emitter propagation characteristics

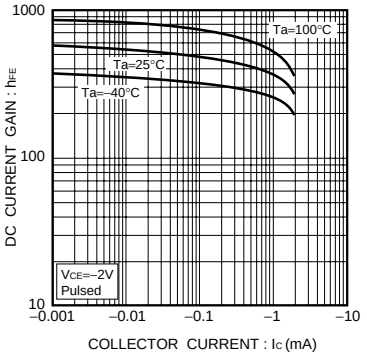


Fig.2 DC current gain vs. collector current

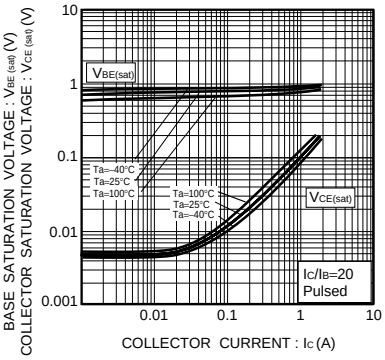


Fig.3 Collector-emitter saturation voltage vs.collector current
Base-emitter saturation voltage vs.collector current

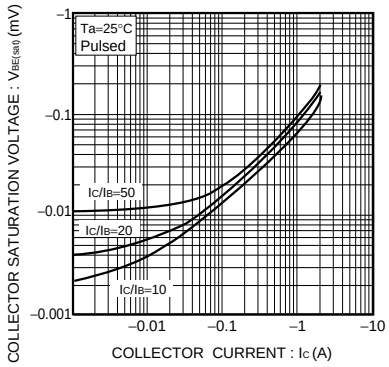


Fig.4 Collector-emitter saturation voltage vs.collector current

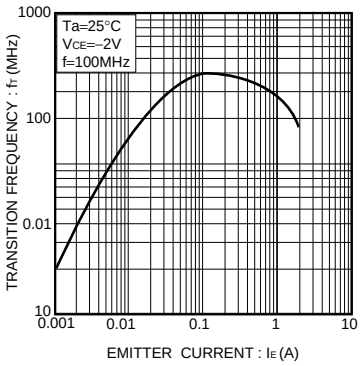


Fig.5 Gain bandwidth product vs. emitter current

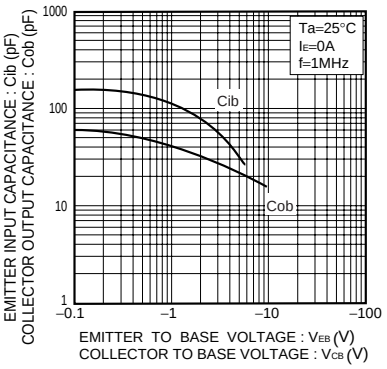


Fig.6 Collector output capacitance vs. collector-base voltage
Emitter inputcapacitance vs. emitter-base voltage

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