Transistors

Low frequency amplifier

2SB1698

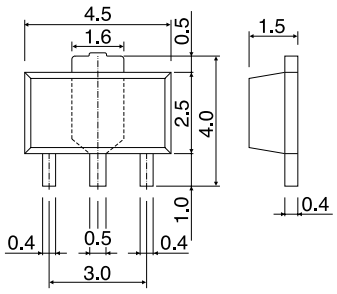
●**Application**

Low frequency amplifier
Driver

●**Features**

1) A collector current is large.
2) $V_{CE(sat)} \leq -370mV$
   at $I_C = -1A / I_B = -50mA$

●**Dimensions** (Unit : mm)



Each lead has same dimensions

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

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

Abbreviated symbol: FL

●**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	–1.5	A
	I_{CP}	–3	A*1
Power dissipation	P_C	500	mW
		2	W*2
Junction temperature	tj	150	°C
Range of storage temperature	tstg	–55 to +150	°C

*1 Single pulse, P_W=1ms
*2 Mounted on a 40 ×40 ×0.7(mm)CERAMIC SUBSTRATE

●**Packaging specifications**

Type	Package	Taping
	Code	T100
	Basic ordering unit (pieces)	1000
2SB1698		○

●**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 current	I_{CBO}	–	–	–100	nA	V_{CB}=–30V
Emitter cutoff current	I_{EBO}	–	–	–100	nA	V_{EB}=–6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–200	–370	mV	I_C=–1A, I_B=–50mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}=–2V, I_C=–100mA*
Transition frequency	f_T	–	280	–	MHz	V_{CE}=–2V, I_E=100mA, f=100MHz*
Collector output capacitance	Cob	–	13	–	pF	V_{CB}=–10V, I_E=0A, f=1MHz

* Pulsed

●Electrical characteristic curves

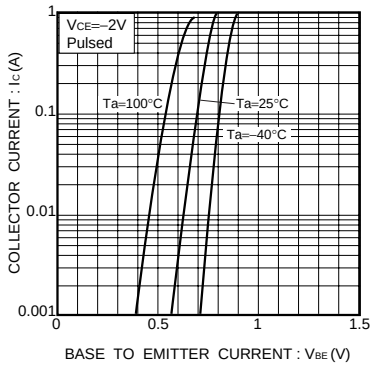


Fig.1 Grounded emitter propagation characteristics

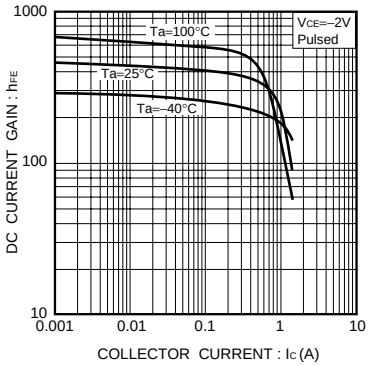


Fig.2 DC current gain vs. collector current

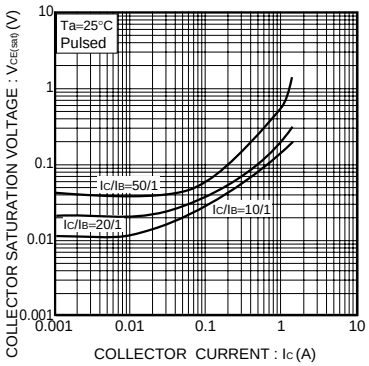


Fig.3 Collector-emitter saturation voltage vs. collector current

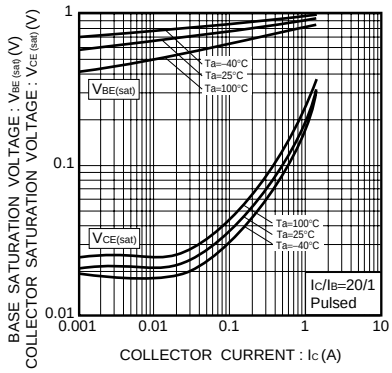


Fig.4 Collector-emitter saturation voltage base-emitter saturation voltage vs. collector current

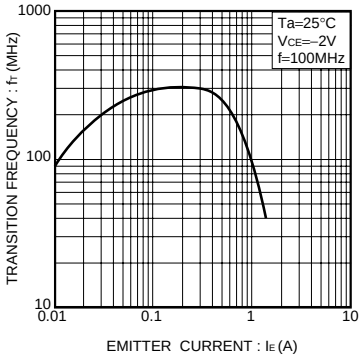


Fig.5 Gain bandwidth product vs. emitter current

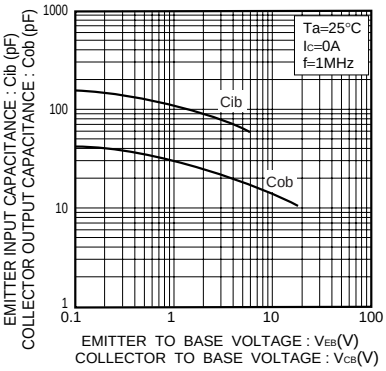


Fig.6 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

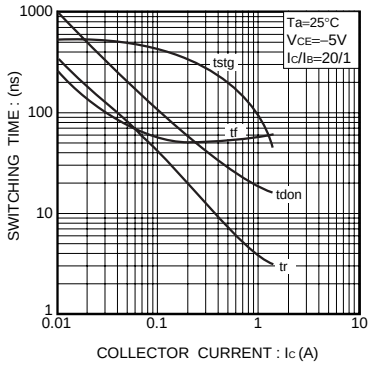


Fig.7 Switching time

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ROHM CO., LTD. 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan
TEL : +81-75-311-2121
FAX : +81-75-315-0172