Low Frequency Transistor (−32V, −0.8A)

2SB1197K

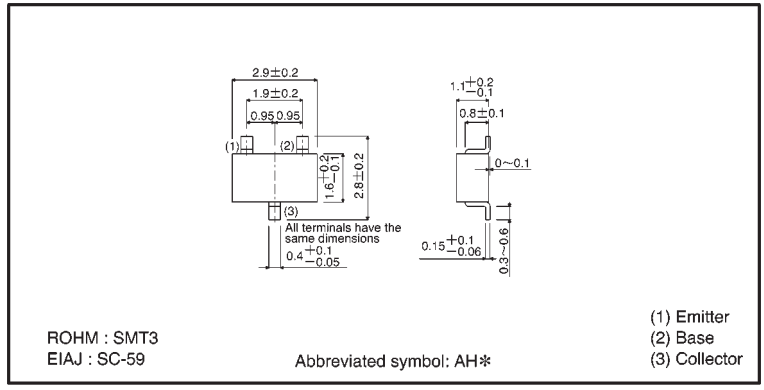
●Features

1) Low $V_{CE(sat)}$.
   $V_{CE(sat)} \leqq -0.5V$
   ($I_C / I_B = -0.5A / -50mA$)
2) $I_C = -0.8A$.
3) Complements the 2SD1781K.

●Structure

Epitaxial planar type
PNP silicon transistor

●External dimensions (Units: mm)



●Absolute maximum ratings (Ta = 25°C) * Denotes h_{FE}

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−40	V
Collector-emitter voltage	V_{CEO}	−32	V
Emitter-base voltage	V_{EBO}	−5	V
Collector current	I_C	−0.8	A
Collector power dissipation	P_C	0.2	W
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55~+150	℃

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−40	—	—	V	I_C=−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−32	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E=−50 μA
Collector cutoff current	I_{CBO}	—	—	−0.5	μA	V_{CB}=−20V
Emitter cutoff current	I_{EBO}	—	—	−0.5	μA	V_{EB}=−4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	−0.5	V	I_C/I_B=−0.5A/−50mA
DC current transfer ratio	h_{FE}	120	—	390	—	V_{CE}=−3V, I_C=−100mA
Transition frequency	f_T	50	200	—	MHz	V_{CE}=−5V, I_E=50mA, f=100MHz
Output capacitance	Cob	—	12	30	pF	V_{CB}=−10V, I_E=0A, f=1MHz

(96-134-B92)

●Packaging specifications and h_{FE}

Type	h_{FE}	Package	Taping
		Code	T146
		Basic ordering unit (pieces)	3000
2SB1197K	QR		○

h_{FE} values are classified as follows :

Item	Q	R
h_{FE}	120～270	180～390

●Electrical characteristic curves

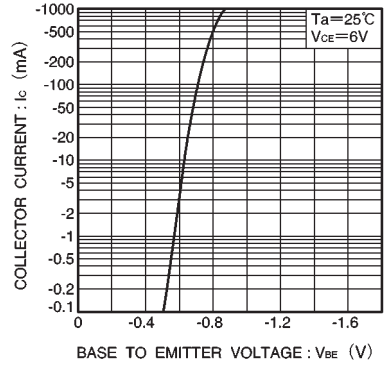


Fig.1 Grounded emitter propagation characteristics

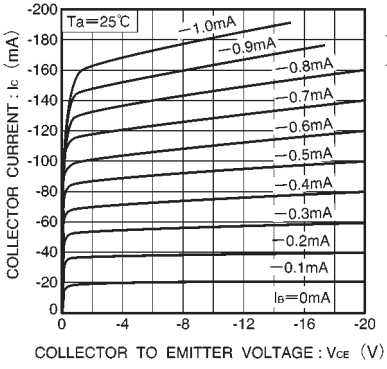


Fig.2 Grounded emitter output characteristics (Ⅰ)

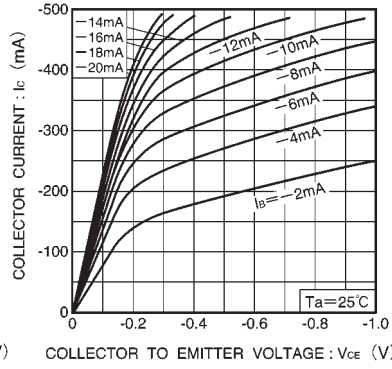


Fig.3 Grounded emitter output characteristics (Ⅱ)

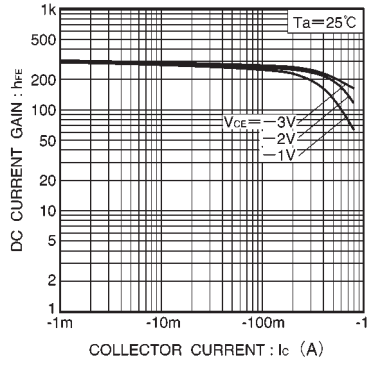


Fig.4 DC current gain vs. collector current

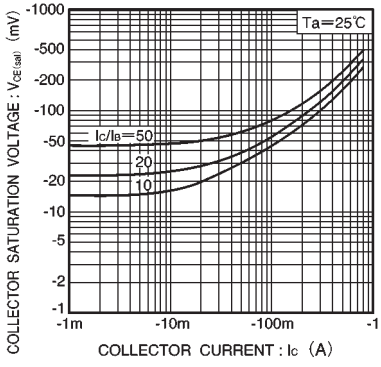


Fig.5 Collector-emitter saturation voltage vs. collector current

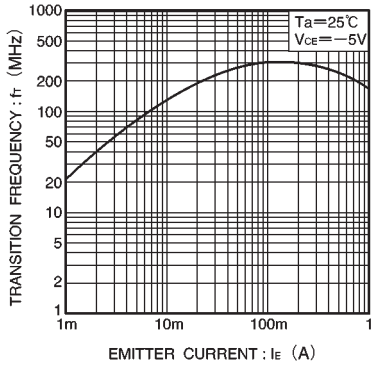


Fig.6 Gain bandwidth product vs. emitter current

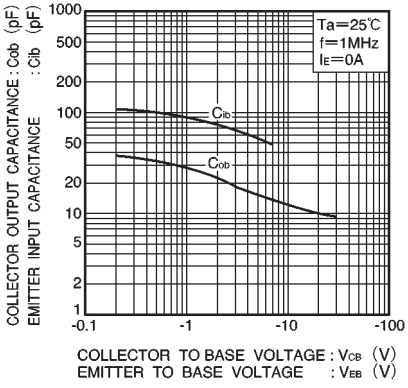


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage