

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

2SB1197K

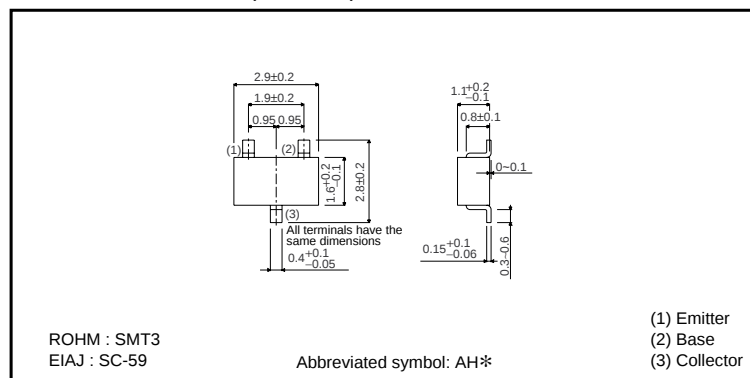
●Features

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

●Structure

Epitaxial planar type
 PNP silicon transistor

●External dimensions (Unit : mm)



* Denotes h_{FE}

●Absolute maximum ratings (Ta=25°C)

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	T_j	150	°C
Storage temperature	T_{stg}	−55 to 150	°C

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−40	—	—	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	−32	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	$I_E = -50\mu A$
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	—	200	—	MHz	$V_{CE} = -5V, I_E = 50mA, f = 100MHz$
Output capacitance	C_{ob}	—	12	30	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

Transistors

●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 to 270	180 to 390

●Electrical characteristic curves

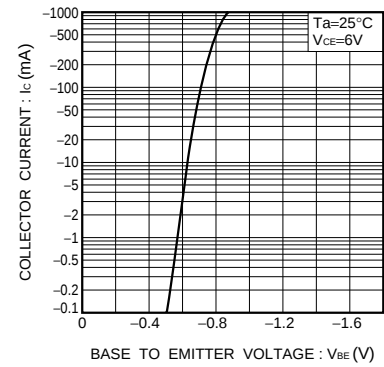


Fig.1 Grounded emitter propagation characteristics

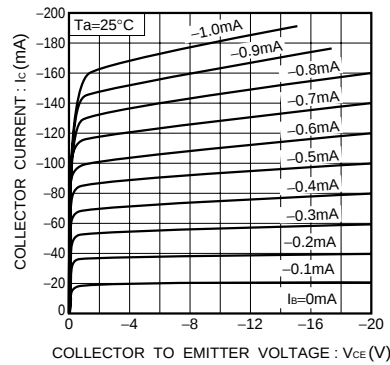


Fig.2 Grounded emitter output characteristics (I)

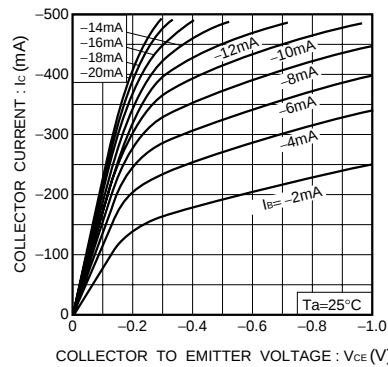


Fig.3 Grounded emitter output characteristics (II)

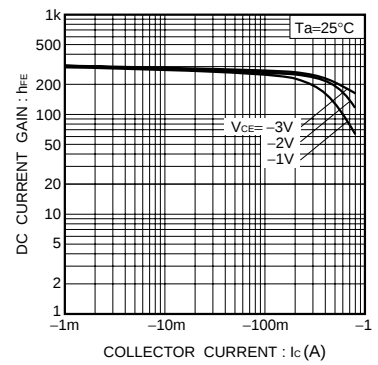


Fig.4 DC current gain vs. collector current

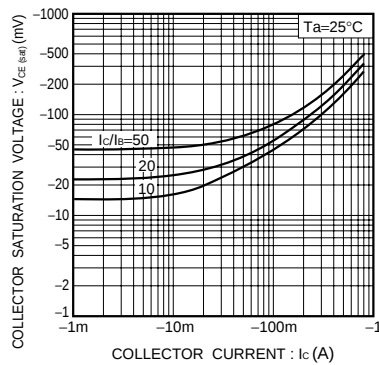


Fig.5 Collector-emitter saturation voltage vs. collector current

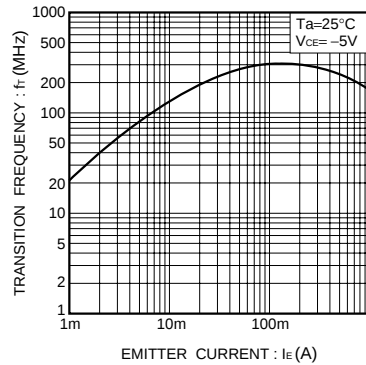


Fig.6 Gain bandwidth product vs. emitter current

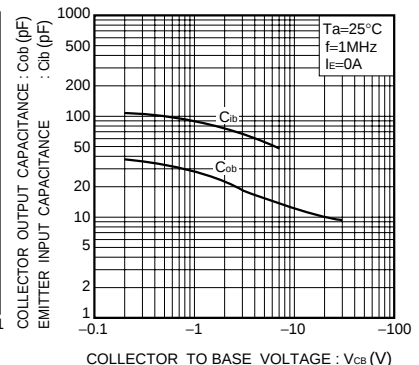


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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