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

2SB1197K

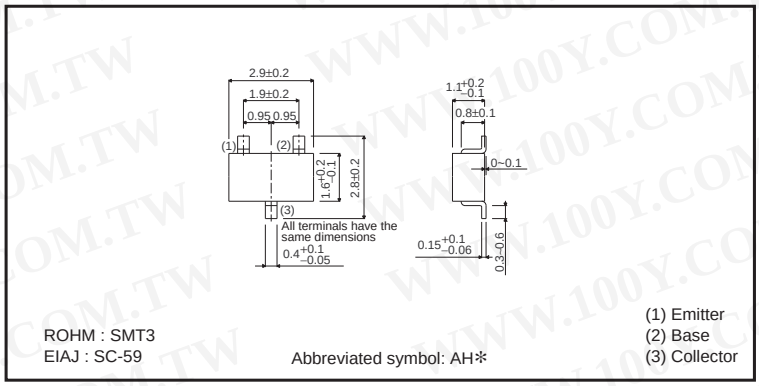
●Features

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 (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	Tj	150	°C
Storage temperature	Tstg	–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= –50μA
Collector-emitter breakdown voltage	BV_{CEO}	–32	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E= –50μA
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	Cob	–	12	30	pF	V_{CB}= –10V, I_E=0A, f=1MHz

●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

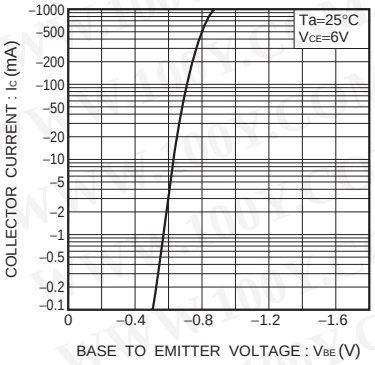


Fig.1 Grounded emitter propagation characteristics

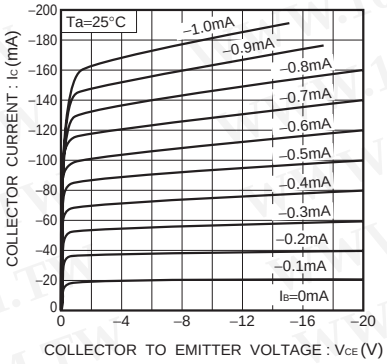


Fig.2 Grounded emitter output characteristics (I)

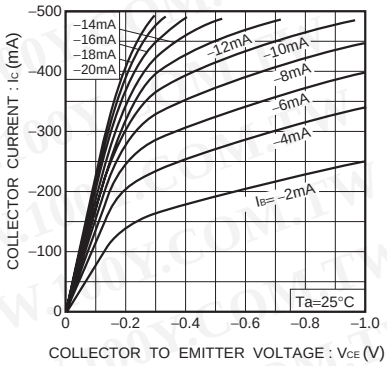


Fig.3 Grounded emitter output characteristics (II)

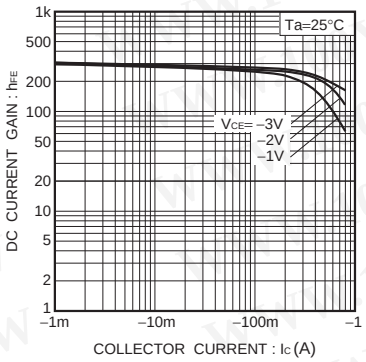


Fig.4 DC current gain vs. collector current

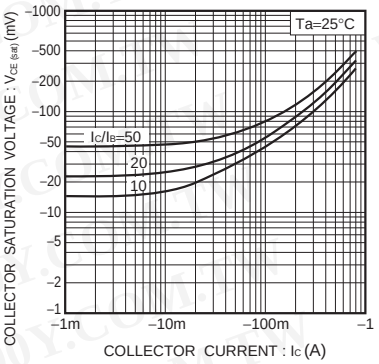


Fig.5 Collector-emitter saturation voltage vs. collector current

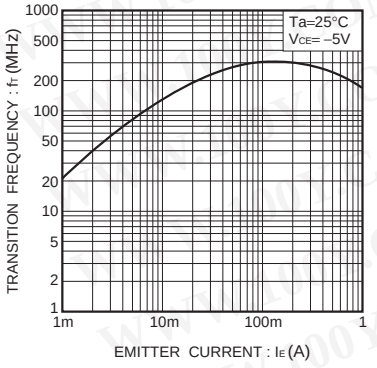


Fig.6 Gain bandwidth product vs. emitter current

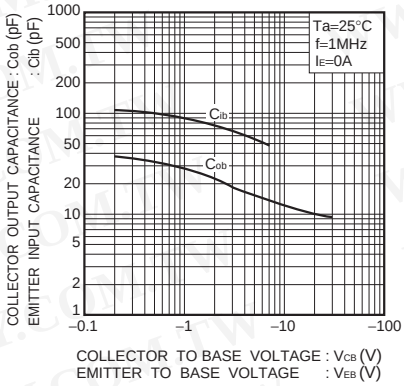


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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