# Low Frequency Transistor (–32V, –0.8A) 2SB1197K

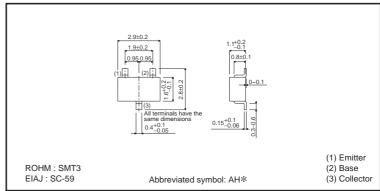
### ● Features

- 1) Low VCE(sat).  $VCE(sat) \leq -0.5V$  (Ic / IB= -0.5A / -50mA)
- 2) Ic = -0.8A.
- 3) Complements the 2SD1781K.

#### Structure

Epitaxial planar type PNP silicon transistor

## ●External dimensions (Unit : mm)



<sup>\*</sup> Denotes hre

#### ● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	-40	V
Collector-emitter voltage	VCEO	-32	V
Emitter-base voltage	Vево	-5	V
Collector current	Ic	-0.8	Α
Collector power dissipation	Pc	0.2	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to 150	°C

#### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	-40	-	_	V	Ic= -50μA
Collector-emitter breakdown voltage	BVceo	-32	_	_	V	Ic=-1mA
Emitter-base breakdown voltage	ВУЕВО	-5	_	_	V	IE= -50μA
Collector cutoff current	Ісво	_	_	-0.5	μΑ	Vcb= -20V
Emitter cutoff current	ІЕВО	_	_	-0.5	μΑ	V <sub>EB</sub> = -4V
Collector-emitter saturation voltage	VcE(sat)	-	_	-0.5	V	Ic/I <sub>B</sub> = -0.5A/ -50mA
DC current transfer ratio	hfe	120	_	390	_	Vce= -3V, Ic= -100mA
Transition frequency	f⊤	_	200	_	MHz	Vc==-5V, I==50mA, f=100MHz
Output capacitance	Cob	_	12	30	pF	Vcb= -10V, Ie=0A, f=1MHz

Rev.A

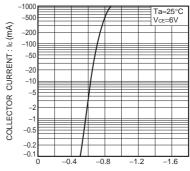
#### Packaging specifications and hre

		Package	Taping
		Code	T146
Туре	hfe	Basic ordering unit (pieces)	3000
2SB1197K	QR		0

#### hfe values are classified as follows:

Item	Q	R
hfe	120 to 270	180 to 390

# •Electrical characteristic curves



BASE TO EMITTER VOLTAGE:  $V_{BE}(V)$ 

Fig.1 Grounded emitter propagation characteristics

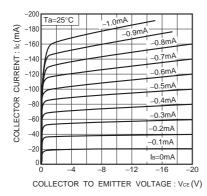


Fig.2 Grounded emitter output characteristics ( I )

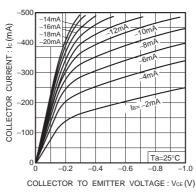


Fig.3 Grounded emitter output characteristics (II)

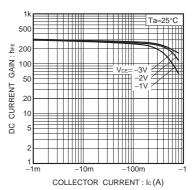


Fig.4 DC current gain vs. collector current

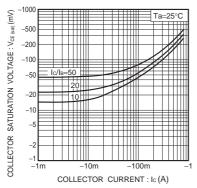


Fig.5 Collector-emitter saturation voltage vs. collector current

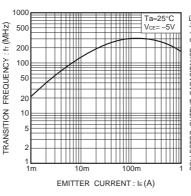
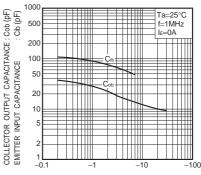


Fig.6 Gain bandwidth product vs. emitter current



COLLECTOR TO BASE VOLTAGE: Vos (V)
EMITTER TO BASE VOLTAGE: VES (V)
Fig.7 Collector output capacitance vs.
collector-base voltage
Emitter input capacitance vs.
emitter-base voltage

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