# Low-frequency Transistor (-80V, -0.5A)

# 2SB1198K

#### Features

1) Low VCE(sat).

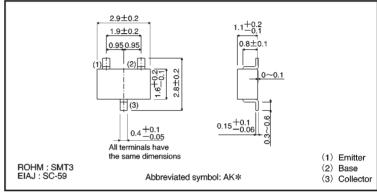
 $V_{CE(sat)} = -0.2V \text{ (Typ.)}$ (Ic / I<sub>B</sub> = -0.5A / -50mA)

- 2) High breakdown voltage.  $BV_{CEO} = -80V$
- 3) Complements the 2SD1782K.

# Structure

Epitaxial planar type PNP silicon transistor

# External dimensions (Unit:s mm)



#### \* Denotes hre

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

Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	-80	V
Collector-emitter voltage	VCEO	-80	V
Emitter-base voltage	VEBO	<b>-</b> 5	V
Collector current	Ic	-0.5	Α
Collector power dissipation	Pc	0.2	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	−55~+150	°C

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

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	-80	_	_	V	Ic=-50 μ A
Collector-emitter breakdown voltage	BVCEO	-80	_	_	V	Ic=-2mA
Emitter-base breakdown voltage	ВУЕВО	-5	_	_	V	I <sub>E</sub> =-50 μ A
Collector cutoff current	Ісво	_	_	-0.5	μΑ	V <sub>CB</sub> =-50V
Emitter cutoff current	ІЕВО	_	_	-0.5	μΑ	V <sub>EB</sub> =-4V
Collector-emitter saturation voltage	VCE(sat)	_	-0.2	-0.5	V	Ic/I <sub>B</sub> =-0.5A/-50mA
DC current transfer ratio	hfe	120	_	390	_	V <sub>CE</sub> =-3V, I <sub>C</sub> =-0.1A
Transition frequency	fτ	_	180	_	MHz	V <sub>CE</sub> =-10V, I <sub>E</sub> =50mA, f=100MHz
Output capacitance	Cob	_	11	_	рF	V <sub>CB</sub> =-10V, I <sub>E</sub> =0A, f=1MHz

(96-136-B93)



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### Packaging specifications and hfe

		Package	Taping
		Code	T146
Туре	hfe	Basic ordering unit (pieces)	3000
2SB1198K	QR		0

hee values are classified as follows:

Item	Q	R
h <sub>FE</sub>	120~270	180~390

#### Electrical characteristic curves

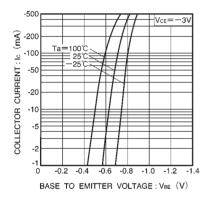


Fig.1 Grounded emitter propagation characteristics

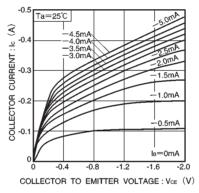


Fig.2 Grounded emitter output characteristics

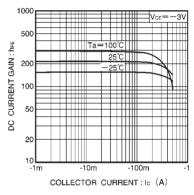


Fig.3 DC current gain vs. collector current

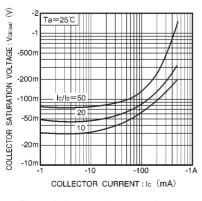


Fig.4 Collector-emitter saturation voltage vs. collector current ( I )

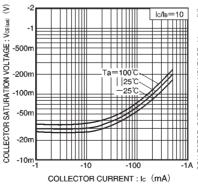


Fig.5 Collector-emitter saturation voltage vs. collector current ( II )

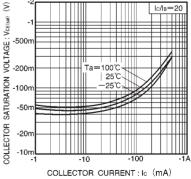
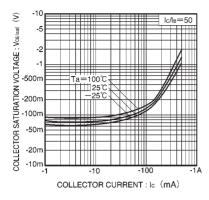


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅲ)

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 $\begin{array}{ccc} \text{Fig.7} & \text{Collector-emitter saturation} \\ & \text{voltage vs. collector current } \left( \mathbb{V} \right) \end{array}$ 

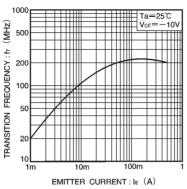


Fig.8 Gain bandwidth product vs. emitter current

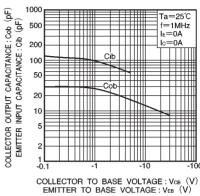


Fig.9 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

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