

2SD1198, 2SD1198A

Silicon NPN epitaxial planer type darlington

For low-frequency amplification

■ Features

- Forward current transfer ratio h_{FE} is designed high, which is appropriate to the driver circuit of motors and printer hammer: $h_{FE} = 4000$ to 40000 .
- A shunt resistor is omitted from the driver.
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
2SD1198A		60	
Collector to emitter voltage	V_{CEO}	25	V
2SD1198A		50	
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1.5	A
Collector current	I_C	1	A
Collector power dissipation	P_C^*	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

* Printed circuit board: Copper foil area of 1cm² or more, and the board thickness of 1.7mm for the collector portion

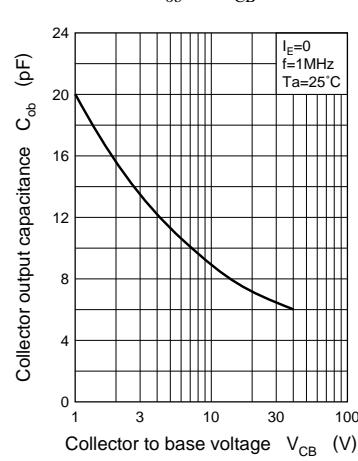
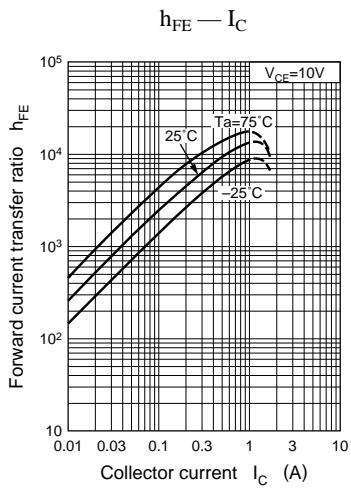
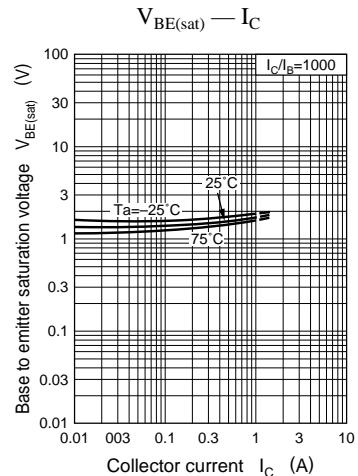
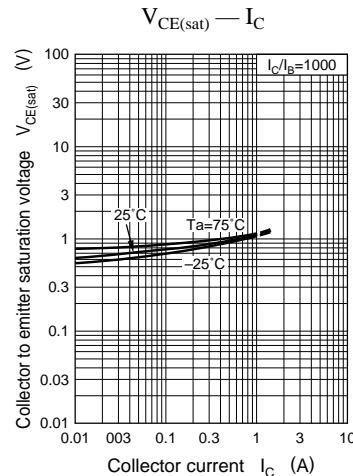
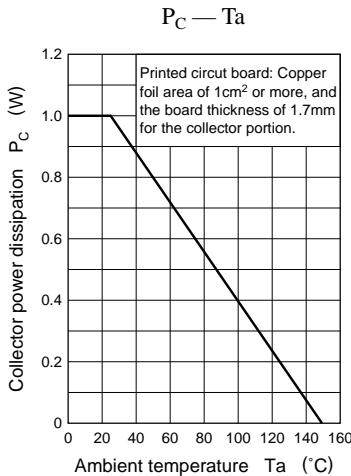
■ Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SD1198	I _{CBO}	V _{CB} = 25V, I _E = 0			100	nA
	2SD1198A		V _{CB} = 45V, I _E = 0			100	
Emitter cutoff current		I _{EBO}	V _{EB} = 4V, I _C = 0			100	nA
Collector to base voltage	2SD1198	V _{CBO}	I _C = 100μA, I _B = 0	30			V
	2SD1198A			60			
Collector to emitter voltage	2SD1198	V _{CEO}	I _C = 1mA, I _B = 0	25			V
	2SD1198A			50			
Emitter to base voltage		V _{EBO}	I _E = 100μA, I _C = 0	5			V
Forward current transfer ratio		h_{FE}^{*1}	V _{CE} = 10V, I _C = 1A ^{*2}	4000		40000	
Collector to emitter saturation voltage		V _{CE(sat)}	I _C = 1A, I _B = 1mA ^{*2}			1.8	V
Base to emitter saturation voltage		V _{BE(sat)}	I _C = 1A, I _B = 1mA ^{*2}			2.2	V
Transition frequency		f _T	V _{CB} = 10V, I _E = -50mA, f = 200MHz		150		MHz

*¹h_{EE} Rank classification

^{*2} Pulse measurement

Rank	Q	R	S
h_{FE}	4000 ~ 10000	8000 ~ 20000	16000 ~ 40000



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