

2SD2598

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 bammer: $h_{FE} = 4000$ to 20000 .
- 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 ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	750	mA
Collector current	I_C	500	mA
Collector power dissipation	P_C^{*1}	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

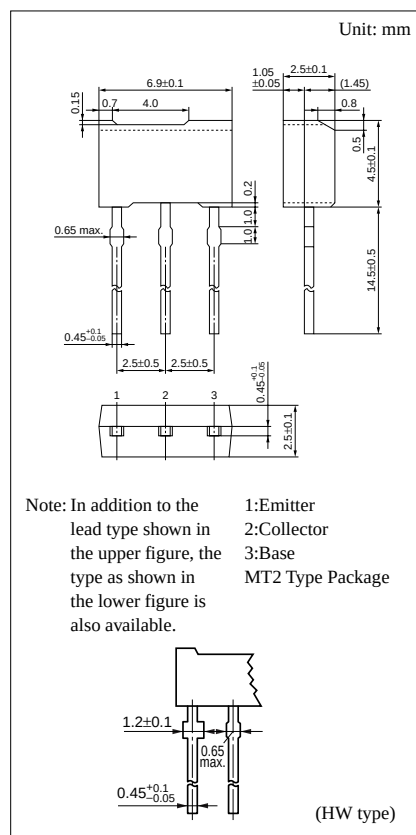
Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 25\text{V}, I_E = 0$			100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			100	nA
Collector to base voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	60			V
Collector to emitter voltage	V_{CEO}	$I_C = 1\text{mA}, I_B = 0$	50			V
Emitter to base voltage	V_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Forward current transfer ratio	h_{FE}^{*1}	$V_{CE} = 10\text{V}, I_C = 500\text{mA}^{*2}$	4000		20000	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 0.5\text{mA}^{*2}$			2.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 0.5\text{mA}^{*2}$			3.0	V
Transition frequency	f_T	$V_{CB} = 10\text{V}, I_E = -50\text{mA}, f = 200\text{MHz}$		200		MHz

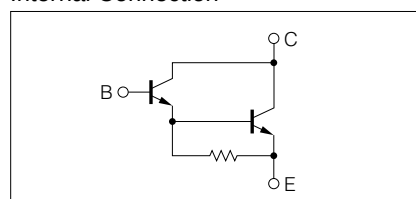
*¹ h_{FE} Rank classification

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

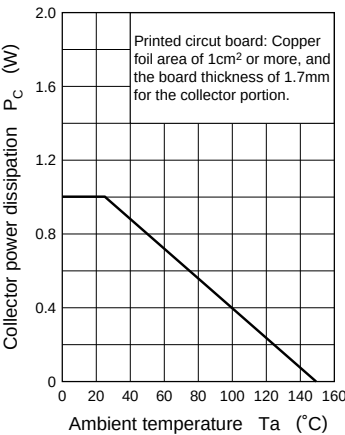
*² Pulse measurement



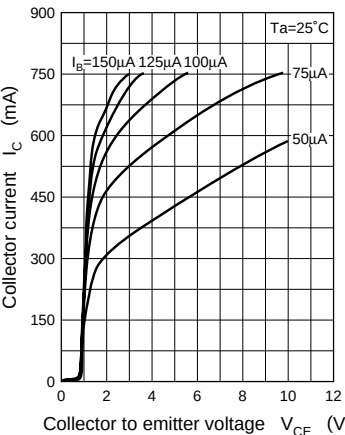
Internal Connection



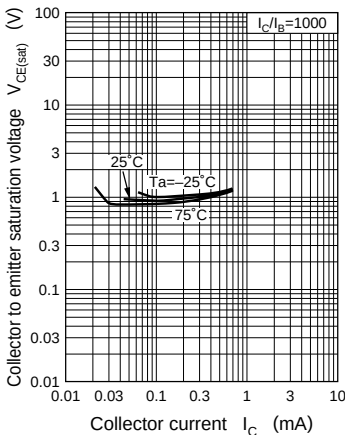
$P_C - T_a$



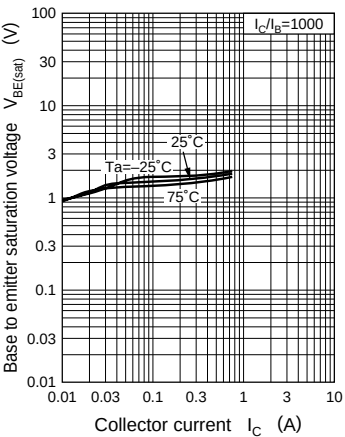
$I_C - V_{CE}$



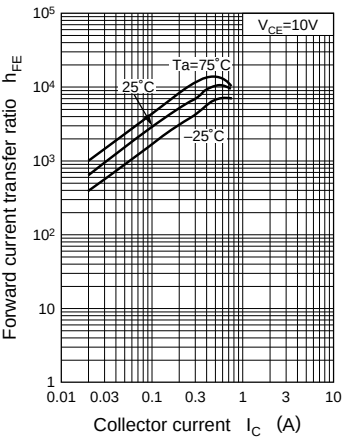
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



$C_{ob} - V_{CB}$

