

# 2SD2258 (Tentative)

Silicon NPN epitaxial planer type

For low-frequency output amplification

## Features

- Darlington connection.
- High forward current transfer ratio  $h_{FE}$ .
- Allowing supply with the radial taping.

## Absolute Maximum Ratings (Ta=25°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	$I_{CP}$	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 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

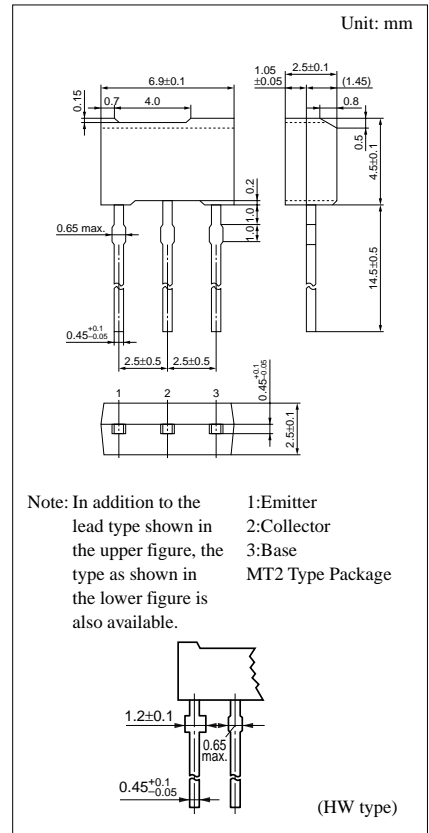
## Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 45V, I_E = 0$			0.1	μA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$			0.1	μA
Collector to base voltage	$V_{CBO}$	$I_C = 100\mu A, I_E = 0$	60			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	50			V
Emitter to base voltage	$V_{EBO}$	$I_E = 100\mu A, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE}^{*1}$	$V_{CE} = 10V, I_C = 1A$	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

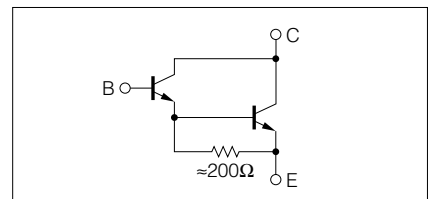
\*1  $h_{FE}$  Rank classification

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

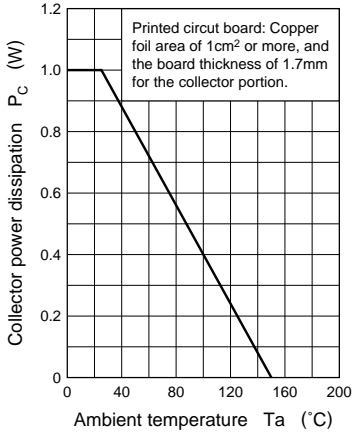
\*2 Pulse measurement



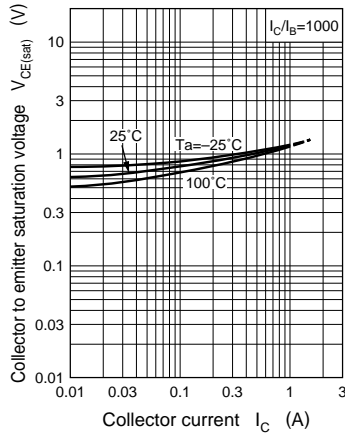
## Internal Connection



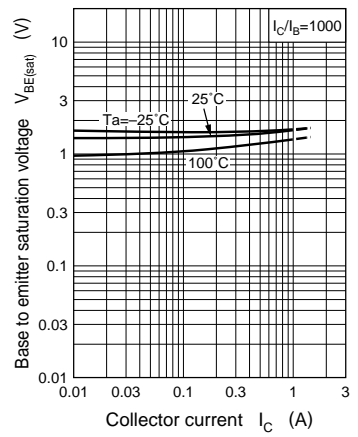
$P_C - T_a$



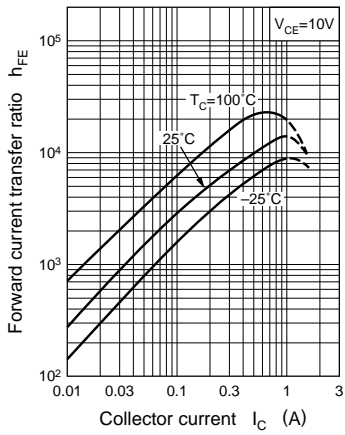
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



$C_{ob} - V_{CB}$

