

# 2SD2259

## Silicon NPN epitaxial planer type

For low-frequency amplification

### Features

- High forward current transfer ratio  $h_{FE}$ .
- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Allowing supply with the radial taping.

### Absolute Maximum Ratings (Ta=25°C)

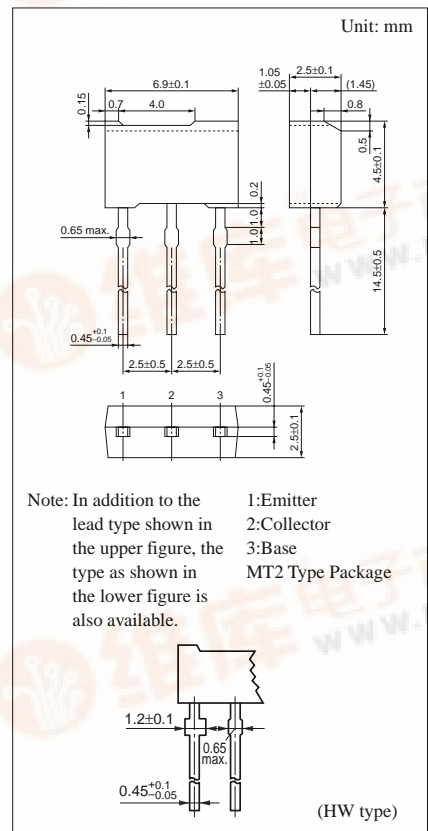
Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	20	V
Collector to emitter voltage	$V_{CEO}$	20	V
Emitter to base voltage	$V_{EBO}$	15	V
Peak collector current	$I_{CP}$	1.5	A
Collector current	$I_C$	0.7	A
Collector power dissipation	$P_C^*$	1	W
Junction temperature	$T_j$	150	°C
Storage 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

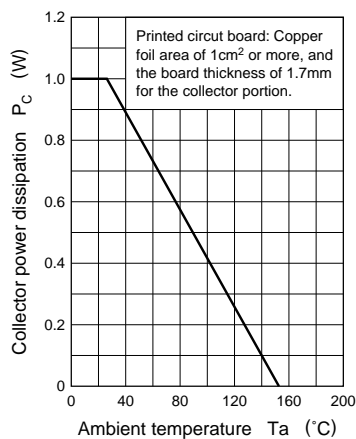
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 15V, I_E = 0$			1	μA
	$I_{CEO}$	$V_{CE} = 15V, I_B = 0$			10	μA
Collector to base voltage	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	20			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	20			V
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	15			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10V, I_C = 150mA^*$	1000		2500	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA^*$		0.15	0.4	V
Transition frequency	$f_T$	$V_{CB} = 20V, I_E = -20mA, f = 200MHz$		55		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$		10	15	pF

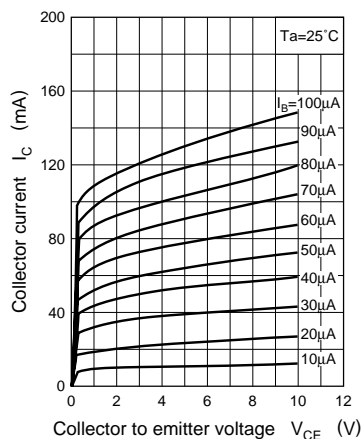
\*2 Pulse measurement



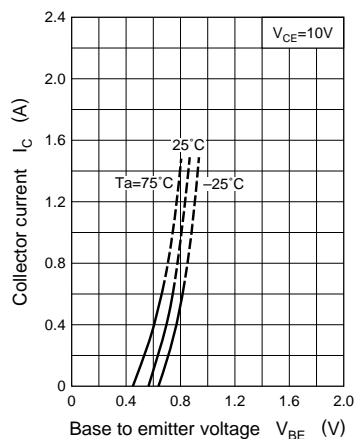
$P_C - T_a$



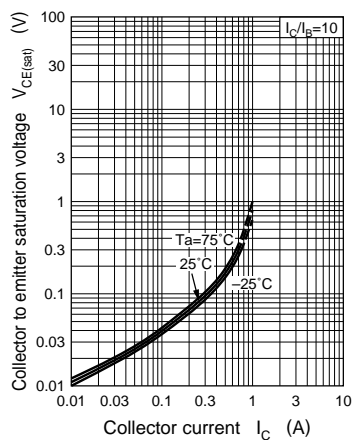
$I_C - V_{CE}$



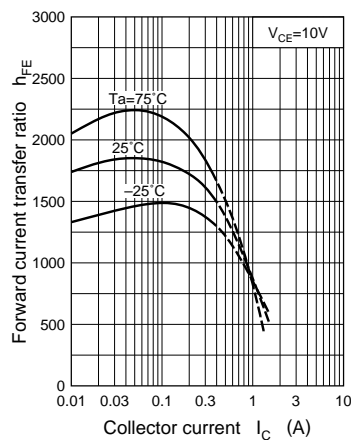
$I_C - V_{BE}$



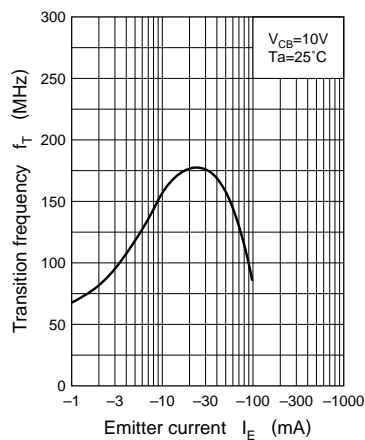
$V_{CE(sat)} - I_C$



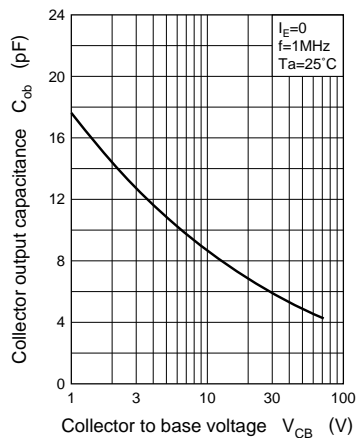
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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