

# 2SD1205, 2SD1205A

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  $2000$ .
- 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	2SD1205 2SD1205A	$V_{CBO}$	30	V
			60	
Collector to emitter voltage	2SD1205 2SD1205A	$V_{CEO}$	25	V
			50	
Emitter to base voltage	$V_{EBO}$	5	V	
Peak collector current	$I_{CP}$	750	mA	
Collector current	$I_C$	500	mA	
Collector power dissipation	$P_C$	400	mW	
Junction temperature	$T_j$	150	°C	
Storage temperature	$T_{stg}$	-55 ~ +150	°C	

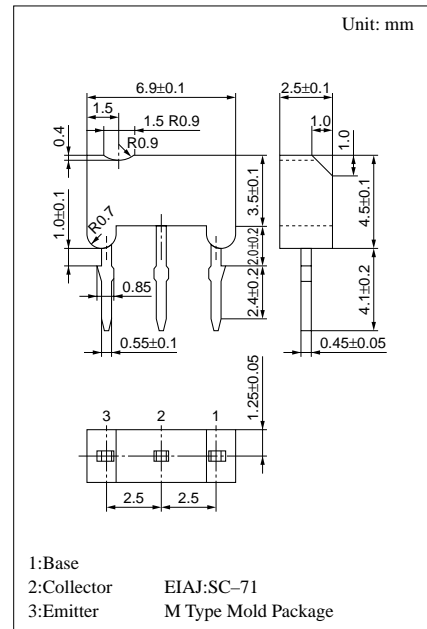
## Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 25V, I_E = 0$			100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$			100	nA
Collector to base voltage	2SD1205 2SD1205A	$V_{CBO}$	$I_C = 100\mu A, I_E = 0$	30		V
				60		
Collector to emitter voltage	2SD1205 2SD1205A	$V_{CEO}$	$I_C = 1mA, I_B = 0$	25		V
				50		
Emitter to base voltage	$V_{EBO}$	$I_E = 100\mu A, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE}^{*1}$	$V_{CE} = 10V, I_C = 500mA^{*2}$	4000		20000	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 0.5mA^{*2}$			2.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500mA, I_B = 0.5mA^{*2}$			3	V
Transition frequency	$f_T$	$V_{CB} = 10V, I_E = -50mA, f = 200MHz$		150		MHz

\*1  $h_{FE}$  Rank classification

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

\*2 Pulse measurement



## Internal Connection

