

# 2SA1128

Silicon PNP epitaxial planer type

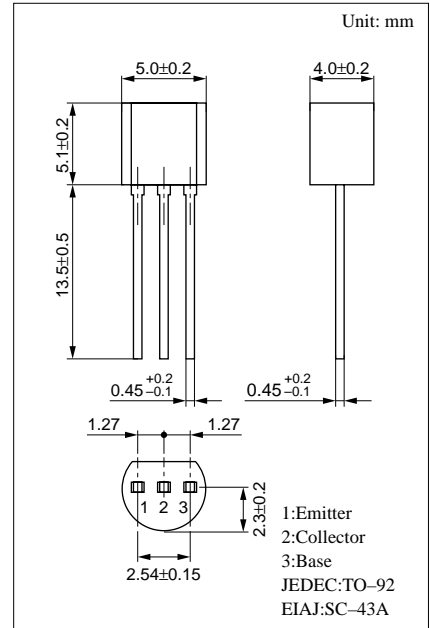
For low-frequency output amplification

## ■ Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Optimum for low-voltage operation and for converter circuits.

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-25	V
Collector to emitter voltage	$V_{CEO}$	-20	V
Emitter to base voltage	$V_{EBO}$	-7	V
Peak collector current	$I_{CP}$	-1	A
Collector current	$I_C$	-0.5	A
Collector power dissipation	$P_C$	600	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
	$I_{CEO}$	$V_{CE} = -20V, I_B = 0$			-1	μA
Collector to base voltage	$V_{CBO}$	$I_C = -10\mu A, I_E = 0$	-25			V
Collector to emitter voltage	$V_{CEO}$	$I_C = -1mA, I_B = 0$	-20			V
Emitter to base voltage	$V_{EBO}$	$I_E = -10\mu A, I_C = 0$	-7			V
Forward current transfer ratio	$h_{FE1}^{*1}$	$V_{CE} = -2V, I_C = -0.5A^{*2}$	90		220	
	$h_{FE2}$	$V_{CE} = -2V, I_C = -1A^{*2}$	25			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA^{*2}$			-0.4	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500mA, I_B = -50mA^{*2}$			-1.2	V
Transition frequency	$f_T$	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$		15	25	pF

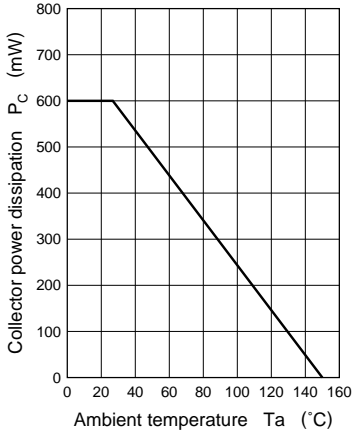
\*2 Pulse measurement

\*1  $h_{FE}$  Rank classification

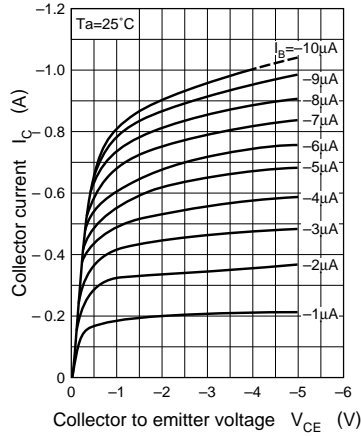
Rank	Q	R
$h_{FE1}$	90 ~ 155	130 ~ 220

Note) S Rank  $V_{CEO} \geq 18V$ .

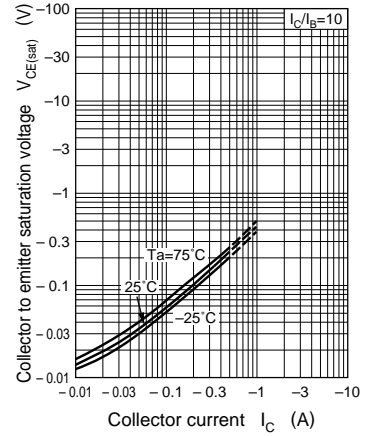
$P_C - T_a$



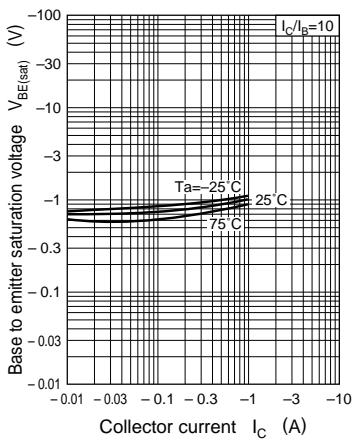
$I_C - V_{CE}$



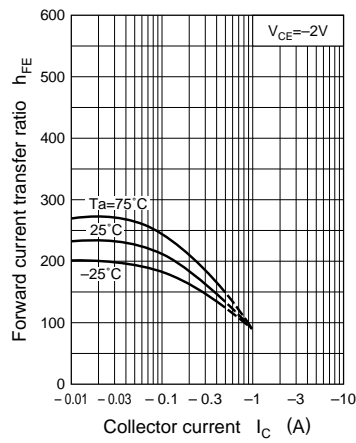
$V_{CE(sat)} - I_C$



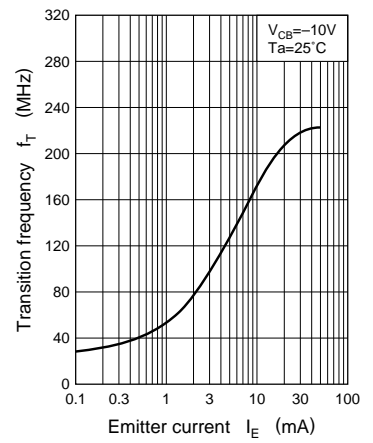
$V_{BE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

