

# 2SA1123

## Silicon PNP epitaxial planer type

For low-frequency high breakdown voltage amplification

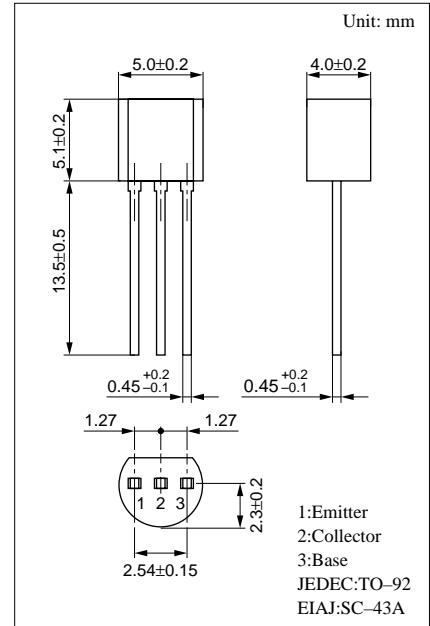
Complementary to 2SC2631

### Features

- Satisfactory forward current transfer ratio  $h_{FE}$  collector current  $I_C$  characteristics.
- High collector to emitter voltage  $V_{CEO}$ .
- Small collector output capacitance  $C_{ob}$ .
- Makes up a complementary pair with 2SC2631, which is optimum for the pre-driver stage of a 20 to 40W output amplifier.

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-150	V
Collector to emitter voltage	$V_{CEO}$	-150	V
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-100	mA
Collector current	$I_C$	-50	mA
Collector power dissipation	$P_C$	750	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



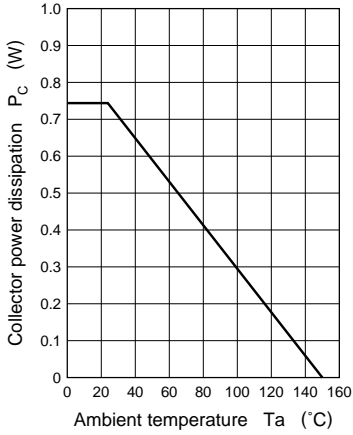
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -100V, I_E = 0$			-1	$\mu A$
Collector to emitter voltage	$V_{CEO}$	$I_C = -0.1mA, I_B = 0$	-150			V
Emitter to base voltage	$V_{EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Forward current transfer ratio	$h_{FE}^*$	$V_{CE} = -5V, I_C = -10mA$	130		450	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -30mA, I_B = -3mA$			-1	V
Transition frequency	$f_T$	$V_{CB} = -10V, I_E = 10mA, f = 200MHz$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$			5	pF
Noise voltage	NV	$V_{CE} = -10V, I_C = -1mA, G_v = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$		150	300	mV

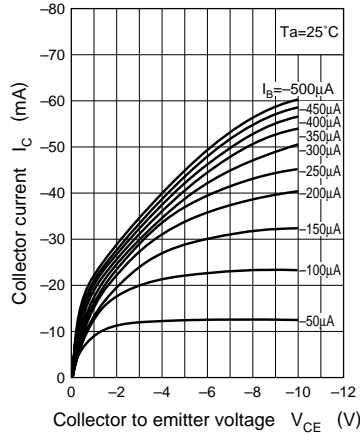
\* $h_{FE}$  Rank classification

Rank	R	S	T
$h_{FE}$	130 ~ 220	185 ~ 330	260 ~ 450

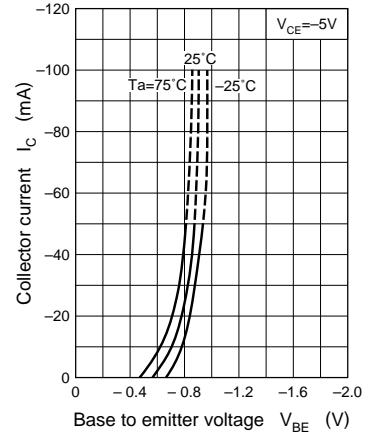
$P_C - T_a$



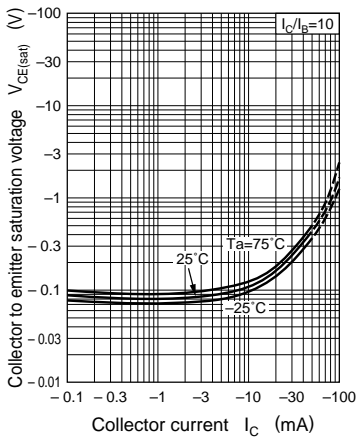
$I_C - V_{CE}$



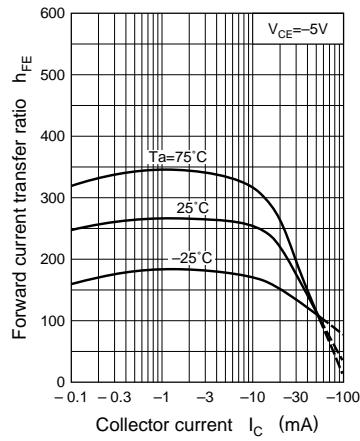
$I_C - V_{BE}$



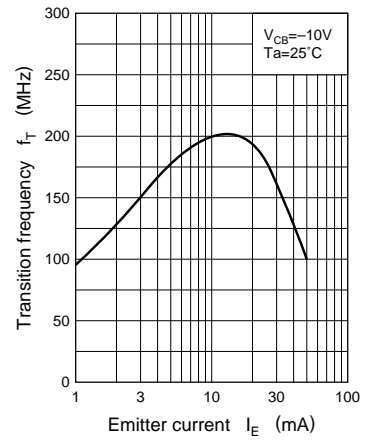
$V_{CE(sat)} - I_C$



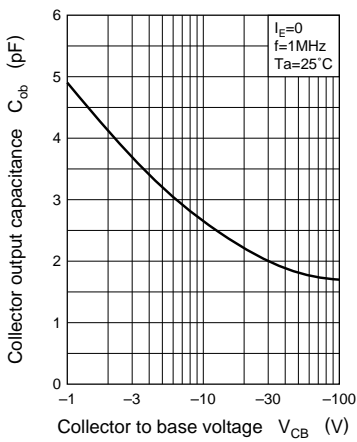
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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