

2SA1123

Silicon PNP epitaxial planer type

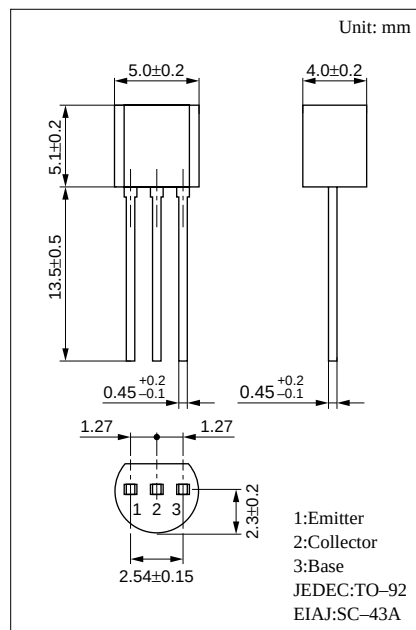
For low-frequency high breakdown voltage amplification
Complementary to 2SC2631

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 ($T_a=25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

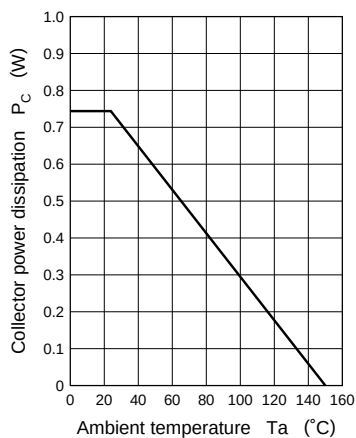
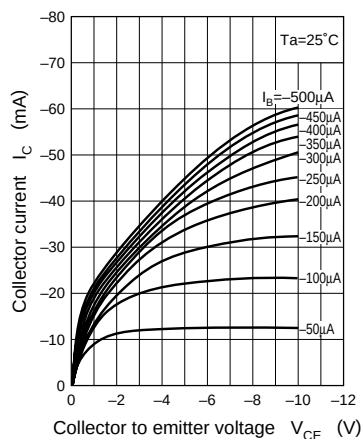
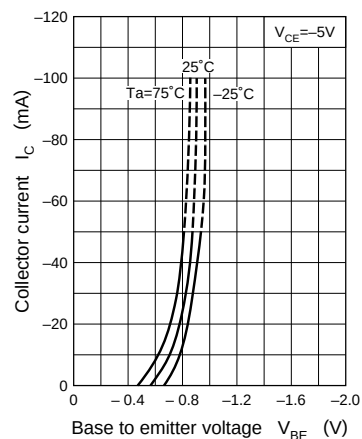
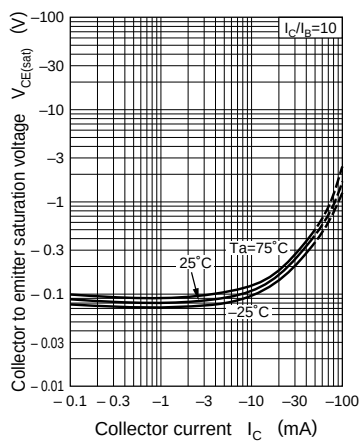
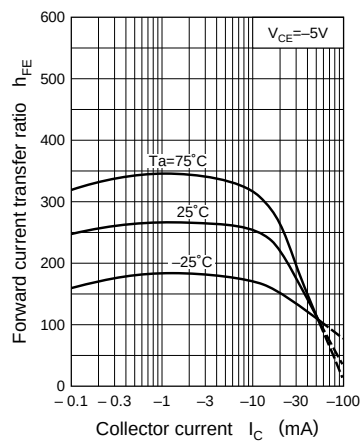
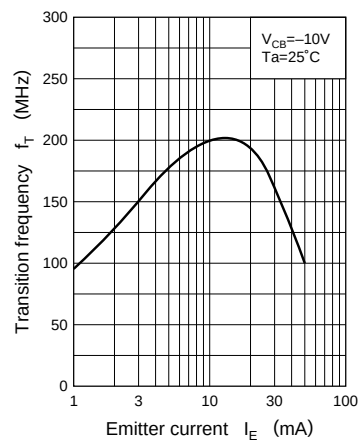


Electrical Characteristics ($T_a=25^\circ\text{C}$)

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

* h_{FE} Rank classification

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

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$ 