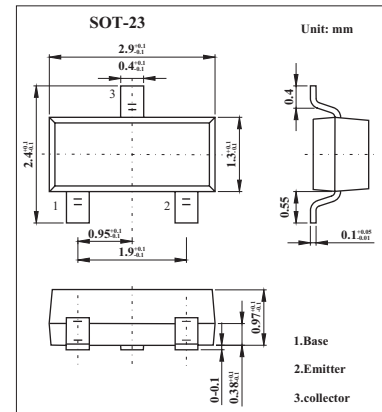


## Silicon PNP Epitaxial Type Transistor

### 2SA1162

#### ■ Features

- High voltage and high current:  $V_{CE0} = -50\text{ V}$ ,  $I_c = \approx 150\text{ mA}$  (max)
- Low noise:  $NF = 1\text{ dB}$  (typ.),  $10\text{ dB}$  (max)
- Small package



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-50	V
Collector-emitter voltage	$V_{CEO}$	-50	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_c$	-150	mA
Base current	$I_B$	-30	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to +125	$^\circ\text{C}$

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50\text{ V}$ , $I_E = 0$			-0.1	$\mu\text{ A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{ V}$ , $I_c = 0$			-0.1	$\mu\text{ A}$
DC current gain	$h_{FE}$	$V_{CE} = -6\text{ V}$ , $I_c = -2\text{ mA}$	70		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -100\text{ mA}$ , $I_B = -10\text{ mA}$		-0.1	-0.3	V
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$		4	7	pF
Noise figure	NF	$V_{CE} = -6\text{ V}$ , $I_c = -0.1\text{ mA}$ , $f = 1\text{ kHz}$ , $R_g = 10\text{ k}\Omega$		1.0	10	dB
Transition frequency	$f_T$	$V_{CE} = -10\text{ V}$ , $I_c = -1\text{ mA}$	80			MHz

#### ■ $h_{FE}$ Classification

Marking	SO	SY	SR
Rank	O	Y	GR
$h_{FE}$	70~140	120~240	200~400

2SA1162

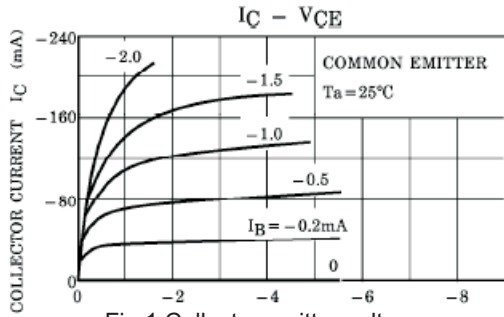


Fig.1 Collector emitter voltage

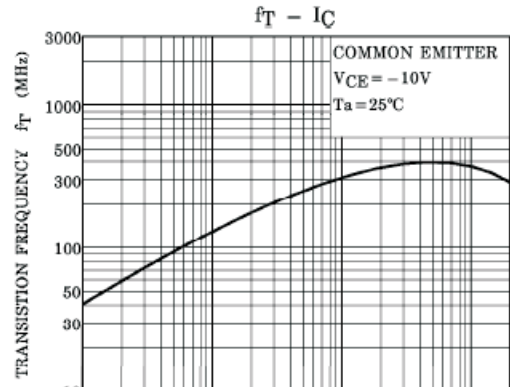


Fig.2 Collector current

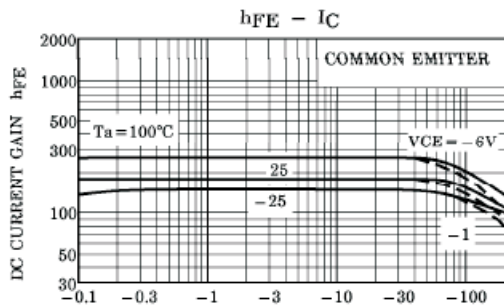


Fig.3 Collector current

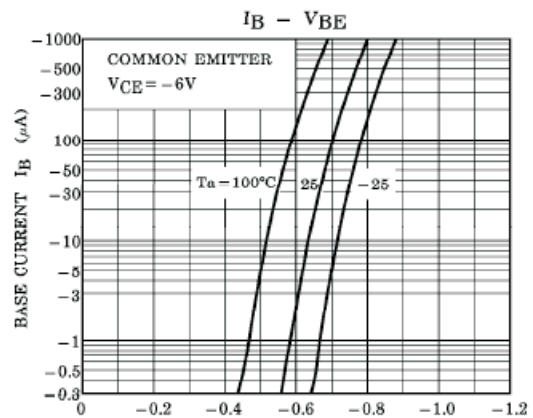


Fig.5 Base emitter voltage

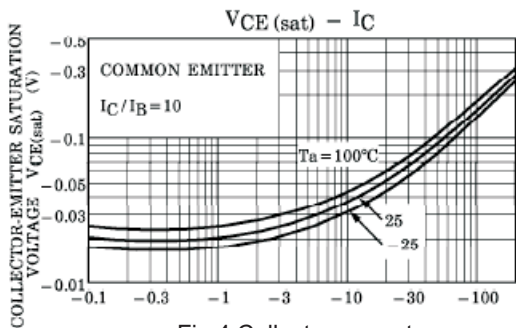


Fig.4 Collector current

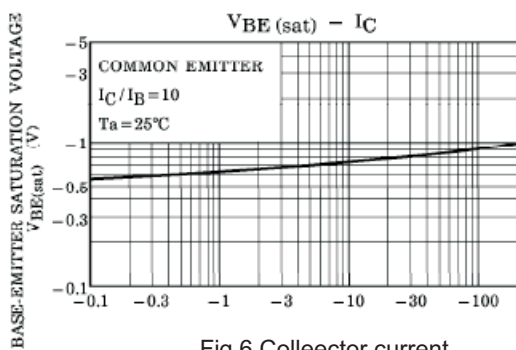


Fig.6 Collector current

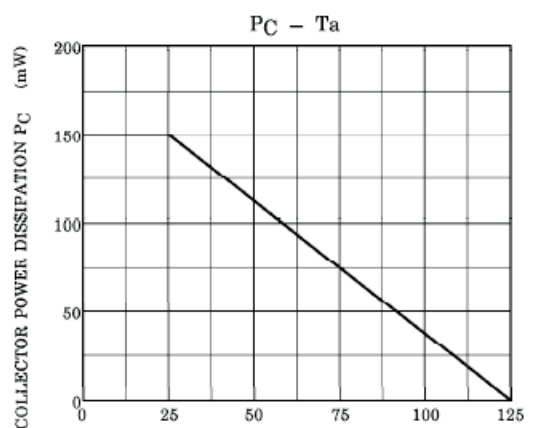


Fig.7 Ambient temperature