

## Silicon PNP Epitaxial Type

## 2SA1163

## ■ Features

- High voltage.
- Small package.
- High hFE.
- Low noise.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	-120	V
Collector-emitter voltage	$V_{CE0}$	-120	V
Emitter-base voltage	$V_{EB0}$	-5	V
Collector current	$I_c$	-100	mA
Base current	$I_B$	-20	mA
Collector power dissipation	$P_c$	150	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -120\text{ V}, I_E = 0$			-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	hFE	$V_{CE} = -6\text{ V}, I_c = -2\text{ mA}$	200		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -10\text{ mA}, I_B = -1\text{ mA}$			-0.3	V
Transition frequency	$f_T$	$V_{CE} = -6\text{ V}, I_c = -1\text{ mA}$		100		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		4		pF
Noise figure	NF	$V_{CB} = -6\text{ V}, I_c = -0.1\text{ mA}, f = 1\text{ kHz}, R_g = 10\text{ k}\Omega$		1.0	10	dB

## ■ hFE Classification

Marking	CG	CL
Rank	GR	BL
hFE	200~400	350~700