

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_{CEO}	-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	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{ V}, I_c = 0$			-0.1	μA
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