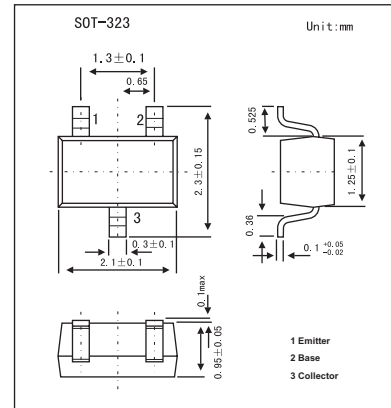


PNP Epitaxial Planar Silicon Transistors

2SA1688

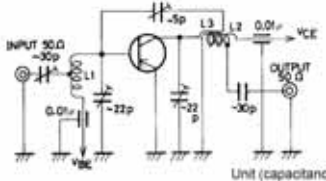
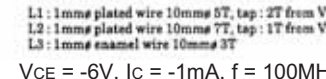
■ Features

- Very small-sized package.
- High power gain.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-30	V
Collector-emitter voltage	V_{CE0}	-20	V
Emitter-base voltage	V_{EB0}	-5	V
Collector current	I_C	-30	mA
Collector dissipation	P_C	150	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -10\text{V}$, $I_E = 0$			-0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -4\text{V}$, $I_C = 0$			-0.1	μA
DC current Gain	h_{FE}	$V_{CE} = -6\text{V}$, $I_C = -1\text{mA}$	60		270	
Gain bandwidth product	f_T	$V_{CE} = -6\text{V}$, $I_C = -1\text{mA}$	150	230		MHz
Reverse transfer capacitance	C_{re}	$V_{CB} = -6\text{V}$, $f = 1\text{MHz}$		1.1	1.7	pF
Base-collector time constant	$bb'C_c$	$V_{CE} = -6\text{V}$, $I_C = -1\text{mA}$, $f = 31.9\text{MHz}$		11	20	ps
Voltage gain	PG			22		dB
Noise figure	NF			2.5		dB

■ h_{FE} Classification

Marking	E		
Rank	3	4	5
h_{FE}	60~120	90~180	135~270