Ordering number : 0000000

NPN Epitaxial Planar Silicon Transistor

SBFP405B

UHF to C Band Low-Noise Amplifier Osc. Applications

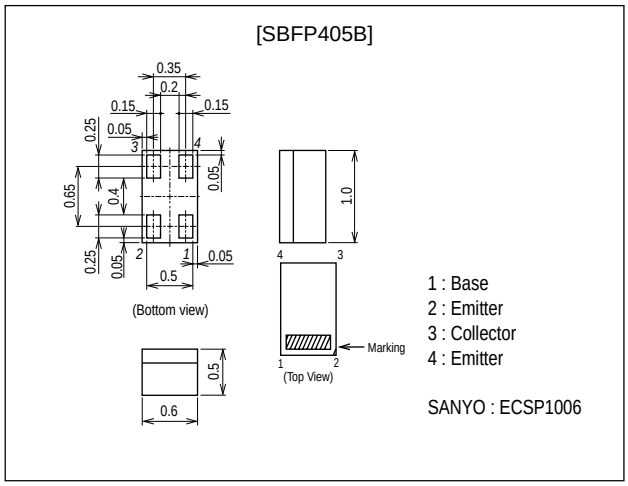
Features

- Low noise : NF=1.25dB typ (f=1.8GHz).
- High cut-off frequency : f_T=25GHz typ (V_{CE}=3V).
- Low operating voltage.
- High gain : $|S21e|^2$=18dB typ (f=1.8GHz).
- Ultraminiature (1006 size) and thin (0.5mm) leadless package.

Package Dimensions

unit : mm

0000



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to- Base Voltage	V_{CBO}		15	V
Collector-to-Emitter Voltage	V_{CEO}		4.5	V
Emitter-to-Base Voltage	V_{EBO}		1.5	V
Collector Current	I_C		12	mA
Collector Dissipation	P_C		55	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=5V, I_E=0			150	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=1.5V, I_C=0			15	μA
DC Current Gain	h_{FE}	V_{CE}=4V, I_C=5mA	50		150	
Gain-Bandwidth Product	f_T	V_{CE}=3V, I_C=10mA		25		GHz
Reverse Transfer Capacitance	Cre	V_{CB}=1V, f=1MHz		0.13	0.23	pF
Forward Transfer Gain	$\|S21e\|^2$	V_{CE}=2V, I_C=5mA, f=1.8GHz		18		dB
Noise Figure	NF	V_{CE}=2V, I_C=2mA, f=1.8GHz		1.25	1.65	dB

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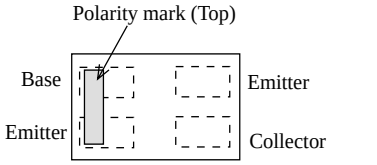
Type No. Indication (Top view)

This product adopts a high-frequency process. Please be careful when handling it beause it is susceptible to static electricity.

Electrical Connection (Top view)



*Electrodes : on the bottom