



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH6020

 — NPN Epitaxial Planar Silicon Transistor

High-Frequency Low-Noise Amplifier

Features

- Low-noise use : NF=1.2dB typ (f=1GHz).
- High cut-off frequency : $f_T=16\text{GHz}$ typ ($V_{CE}=5\text{V}$).
- High gain : $|S_{21e}|^2=13.5\text{dB}$ typ (f=1GHz).

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to- Base Voltage	V_{CBO}		15	V
Collector-to-Emitter Voltage	V_{CEO}		8	V
Emitter-to-Base Voltage	V_{EBO}		2	V
Collector Current	I_C		150	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (250mm ² ×0.8mm)	700	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=5\text{V}$, $I_E=0\text{A}$			1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=1\text{V}$, $I_C=0\text{A}$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=50\text{mA}$	60		150	
Gain-Bandwidth Product	f_T	$V_{CE}=5\text{V}$, $I_C=50\text{mA}$	13	16		GHz
Forward Transfer Gain	$ S_{21e} ^2$	$V_{CE}=5\text{V}$, $I_C=50\text{mA}$, f=1GHz	10	13.5		dB
Noise Figure	NF	$V_{CE}=1\text{V}$, $I_C=10\text{mA}$, f=1GHz		1.2	1.8	dB

Marking : GT

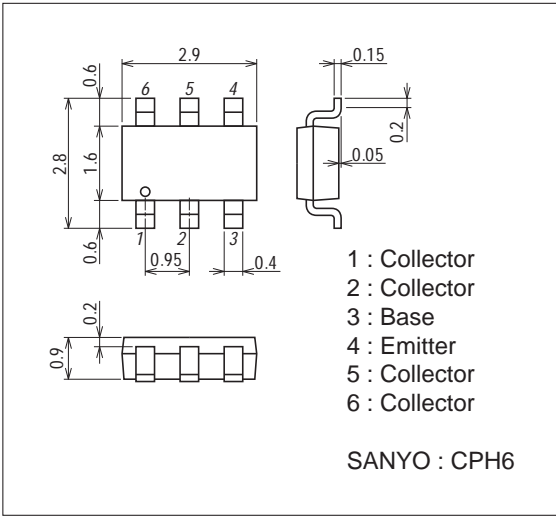
Notre) Pay attention to handling since it is liable to be affected by static electricity due to the high-frequency process adopted.

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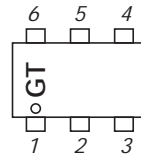
Package Dimensions

unit : mm (typ)

7018A-002

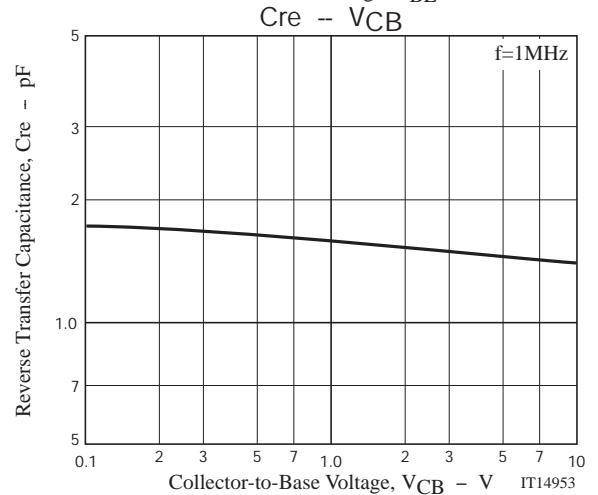
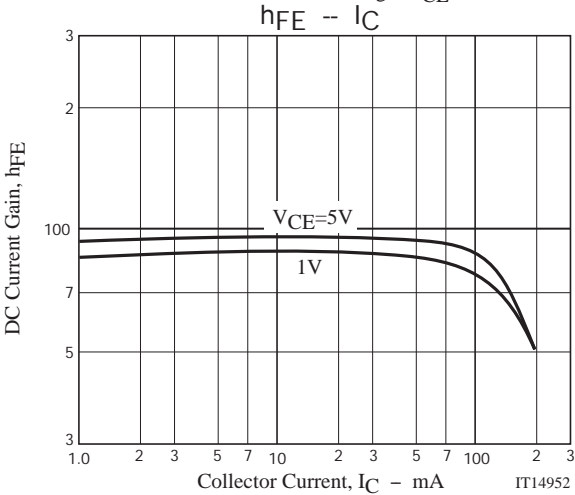
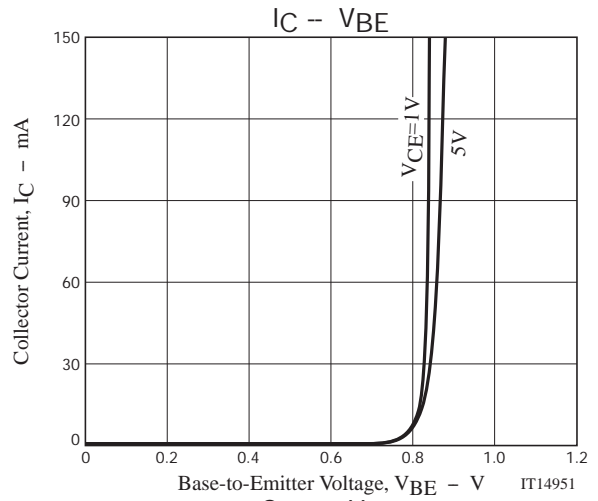
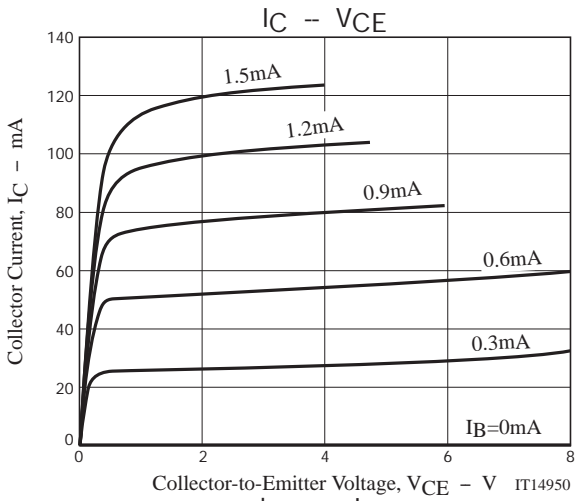


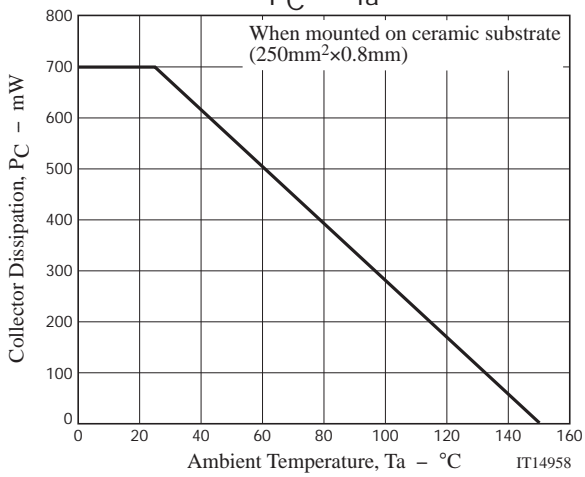
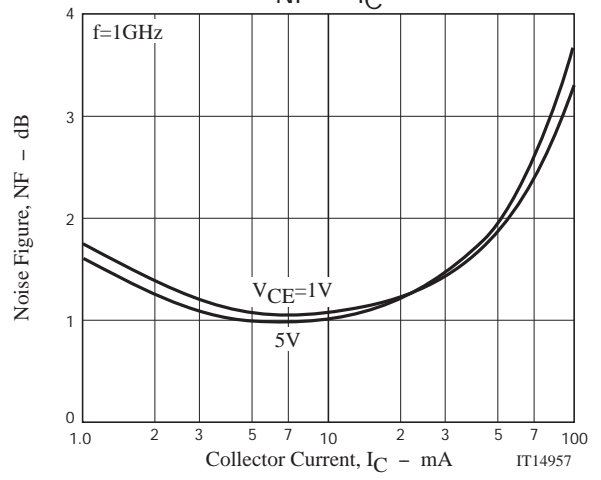
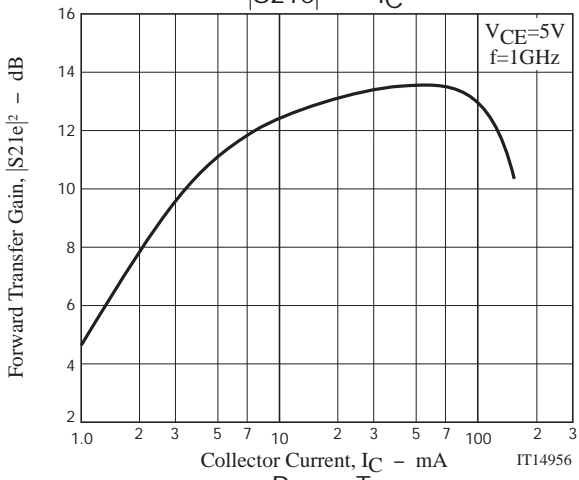
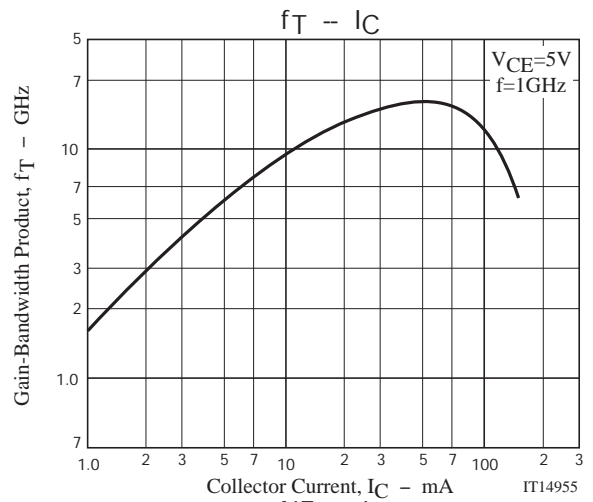
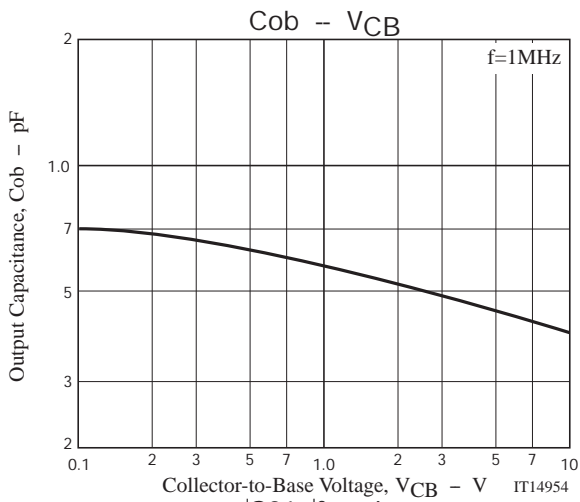
Marking



- 1 : Collector
- 2 : Collector
- 3 : Base
- 4 : Emitter
- 5 : Collector
- 6 : Collector

Top view





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