



ON Semiconductor®

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CPH6020

RF Transistor

8V, 150mA, $f_T=16\text{GHz}$, NPN Single CPH6

Features

- Low-noise use : $NF=1.2\text{dB}$ typ ($f=1\text{GHz}$)
- 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 ($f=1\text{GHz}$)

Specifications

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

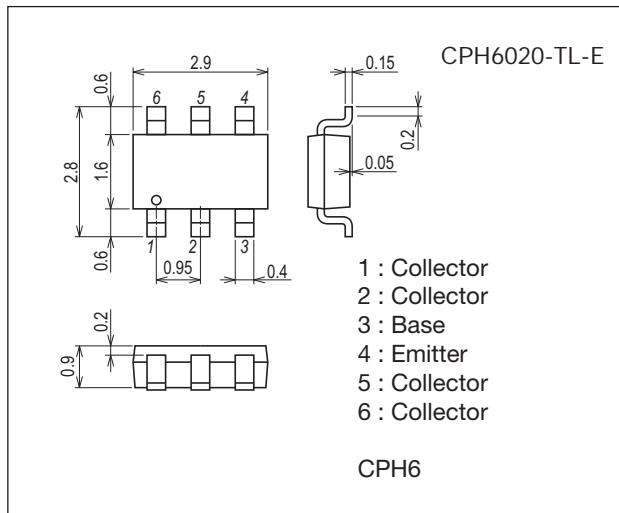
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		15	V
Collector-to-Emitter Voltage	V_{CEO}		8	V
Emitter-to-Base Voltage	V_{EBO}		2	V
Collector Current	I_C		150	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (250mm ² ×0.8mm)	700	mW
Junction Temperature	T_J		150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

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

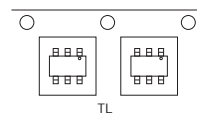
7018A-002



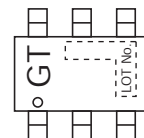
Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

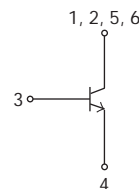
Packing Type: TL



Marking



Electrical Connection



CPH6020

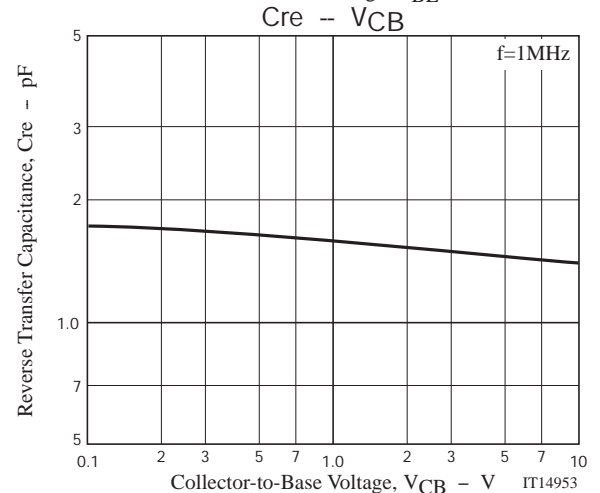
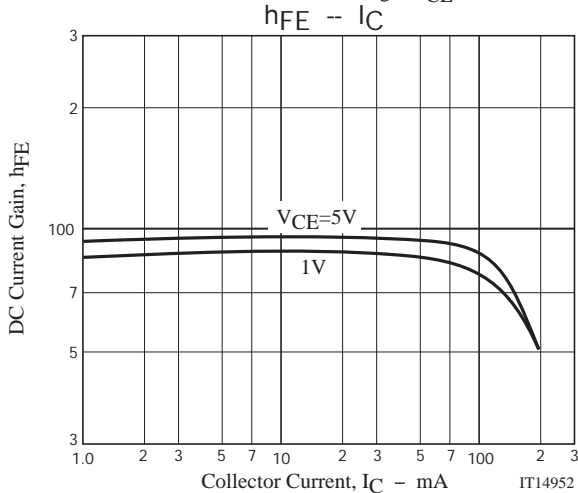
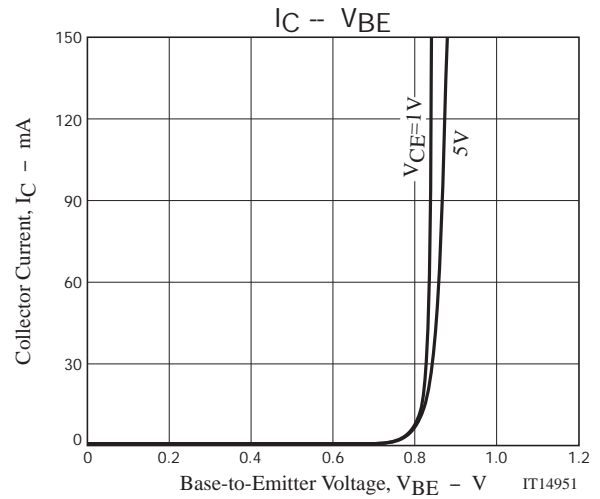
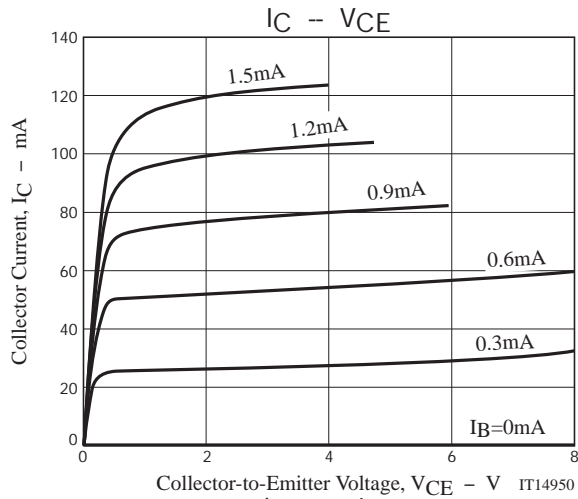
Electrical Characteristics at Ta=25°C

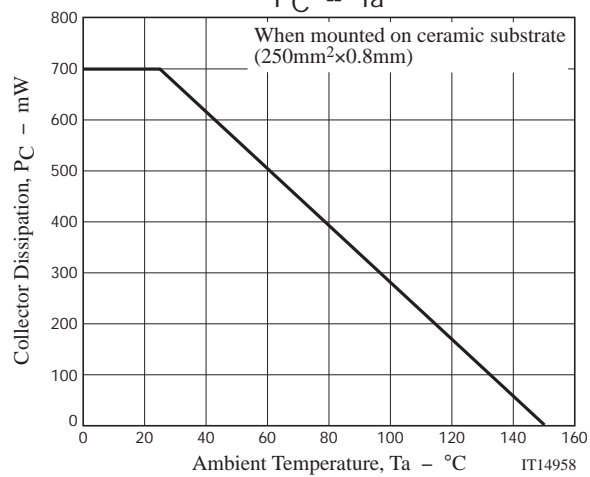
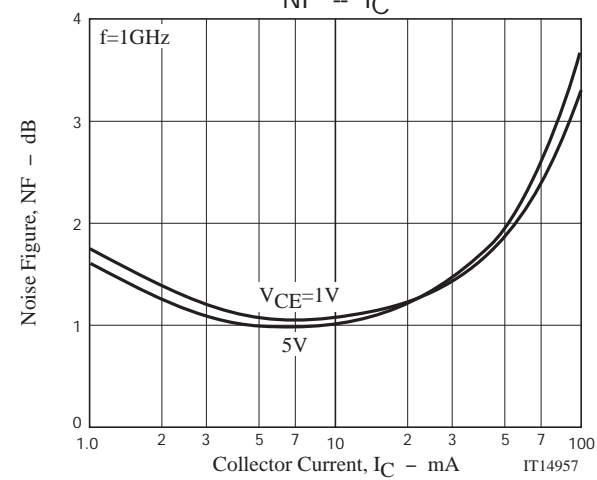
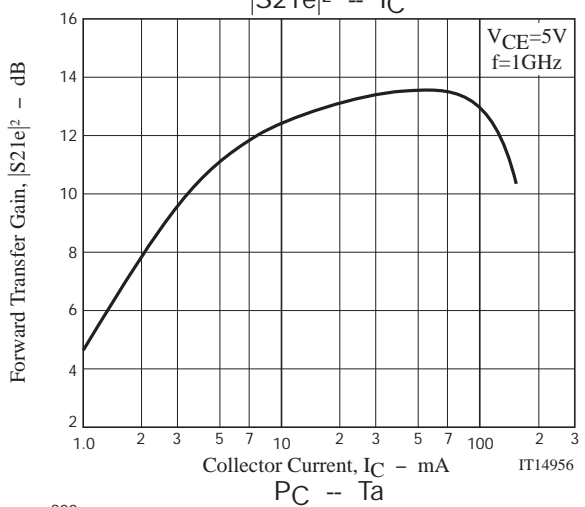
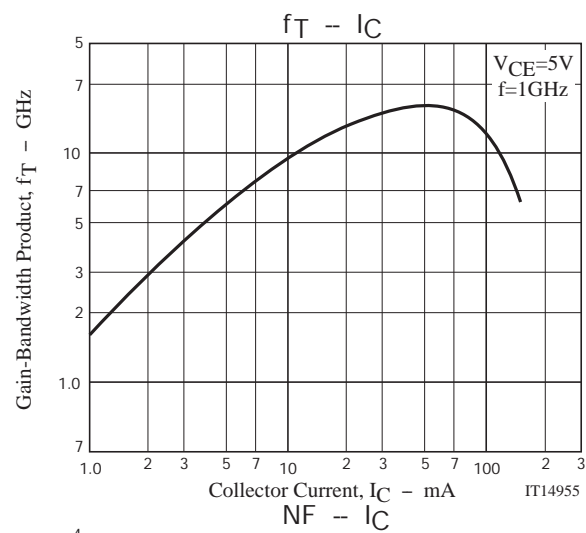
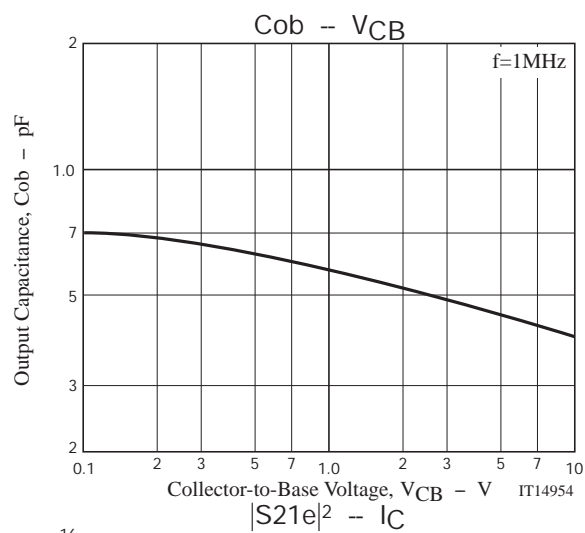
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =5V, I _E =0A			1.0	μA
Emitter Cutoff Current	IEBO	V _{EB} =1V, I _C =0A			1.0	μA
DC Current Gain	h _{FE}	V _{CE} =5V, I _C =50mA	60		150	
Gain-Bandwidth Product	f _T	V _{CE} =5V, I _C =50mA	13	16		GHz
Forward Transfer Gain	S _{21e} ²	V _{CE} =5V, I _C =50mA, f=1GHz	10	13.5		dB
Noise Figure	NF	V _{CE} =1V, I _C =10mA, f=1GHz		1.2	1.8	dB

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

Ordering Information

Device	Package	Shipping	memo
CPH6020-TL-E	CPH6	3,000pcs./reel	Pb Free





Embossed Taping Specification

CPH6020-TL-E

1. Packing Format

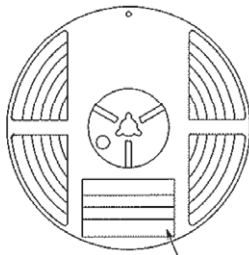
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
CPH6	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label
(unit:mm)

Outer box label

It is a label at the time of factory shipments.
The form of a label may change in physical
distribution process.

Packing method



Reel label

Type No.
LOT No.
Quantity
Origin

TYPE	000000000
LOT	00
QTY	0,000 (1) LEAD FREE *
SPECIAL	*20722005310C*
ASSEMBLY	**** (DIFFUSION:****)

NOTE (1)

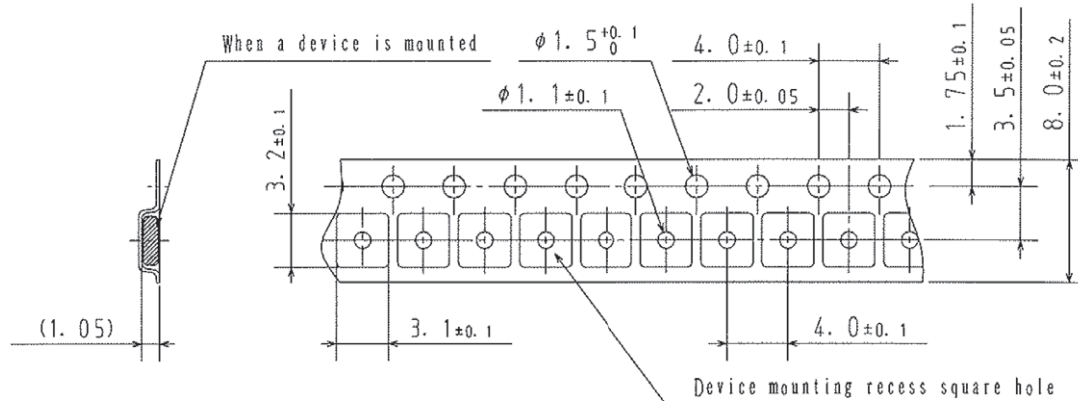
The LEAD FREE * description shows that the surface
treatment of the terminal is lead free.

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

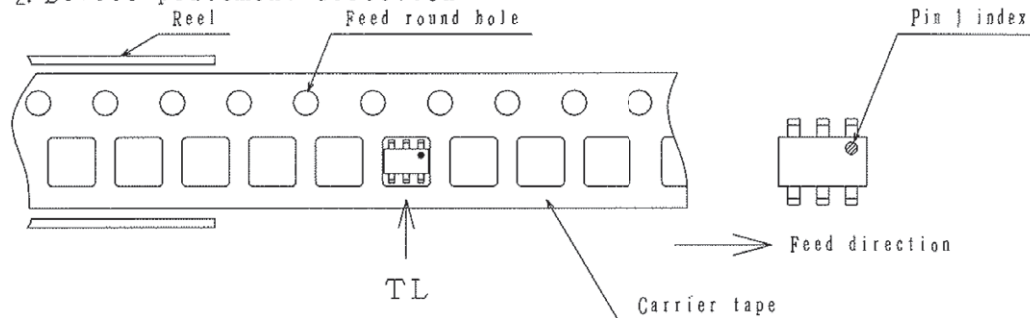
TYPE CODE	*****
TYPE	*****
QTY	0,000 PCS (1) LEAD FREE *
LOT	*****
PACKAGE	*****
SPECIAL	*20722005310C*
ASSEMBLY	**** (DIFFUSION:****)

2. Taping configuration

2-1. Carrier tape size (unit:mm)

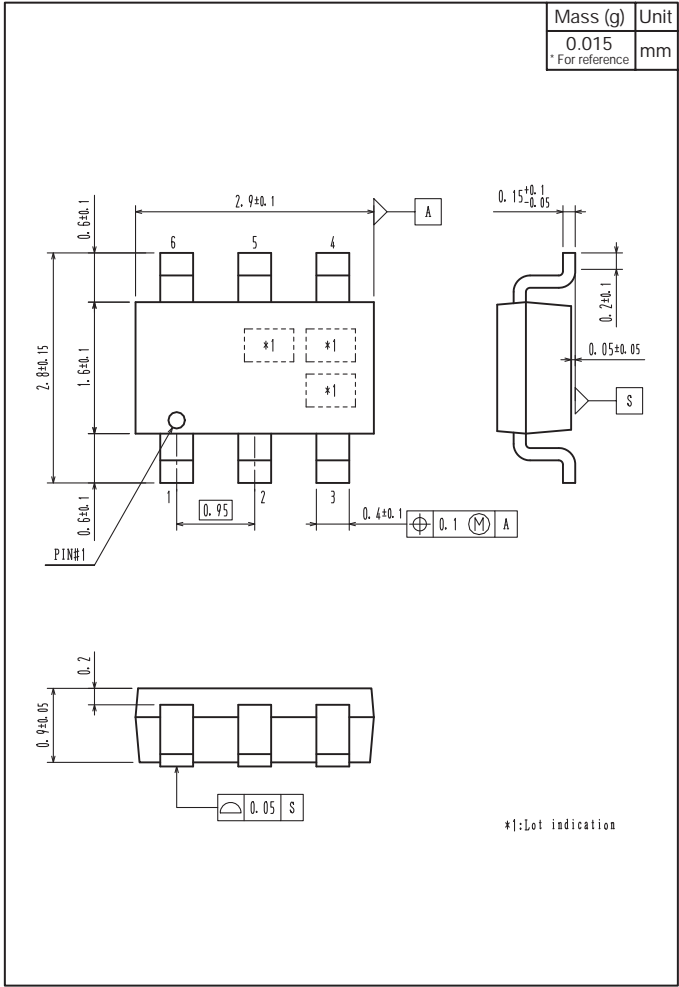


2-2. Device placement direction

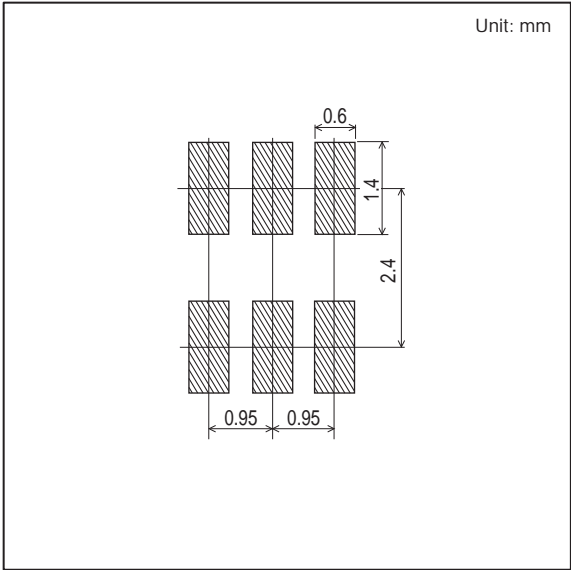


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
CPH6020-TL-E



Land Pattern Example



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