



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH6001

— NPN Epitaxial Planar Silicon Composite Transistor
High Frequency Low-Noise Amplifier

Features

- Low-noise use : NF=1.2dB typ (f=1GHz)
- High cut-off frequency : f_T=16GHz typ (V_{CE}=5V)
- High gain : |S_{21e}|²=16dB typ (f=1GHz)
- Composite type with 2 RF transistor MCH4020 in one package facilitating high-density mounting

Specifications

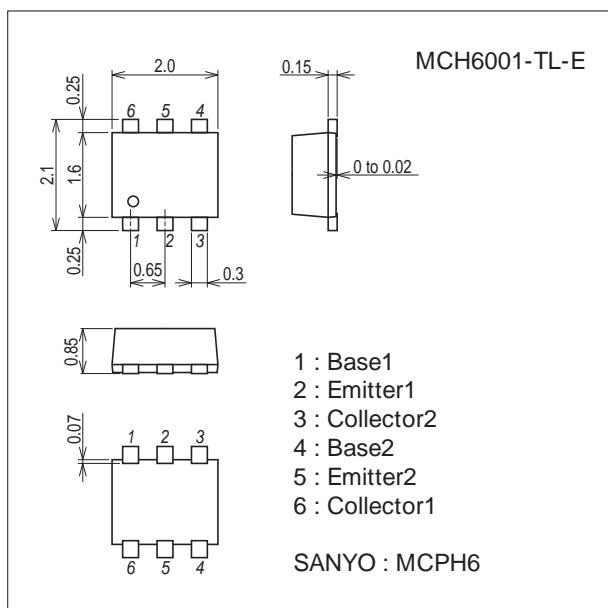
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		15	V
Collector-to-Emitter Voltage	V _{CEO}		8	V
Emitter-to-Base Voltage	V _{EBO}		2	V
Collector Current	I _C		150	mA
Collector Dissipation	P _C	When mounted on glass epoxy substrate 1unit	400	mW
Total Dissipation	P _T	When mounted on glass epoxy substrate	600	mW
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

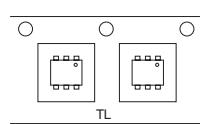
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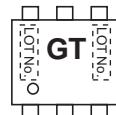
Product & Package Information

- Package : MCPH6
- JEITA, JEDEC : SC-88, SC-70-6, SOT-363
- Minimum Packing Quantity : 3,000 pcs./reel

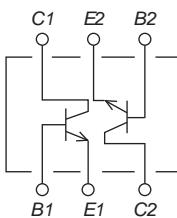
Packing Type : TL



Marking



Electrical Connection



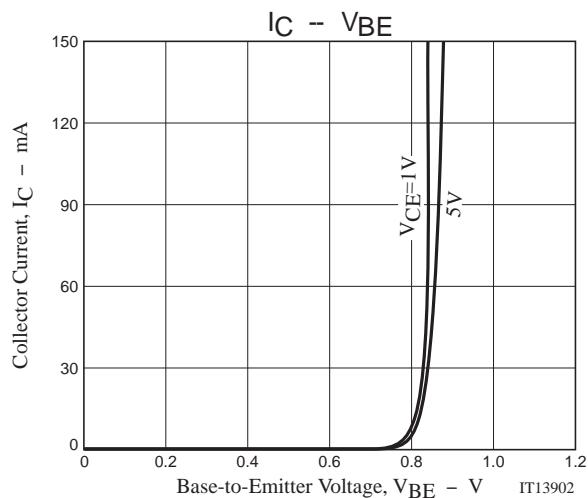
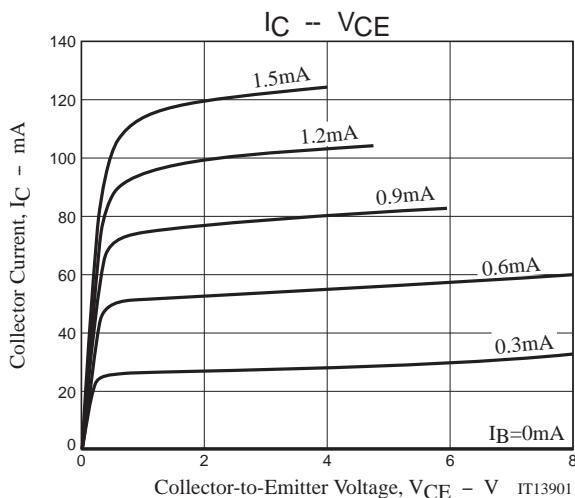
Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=5V, I_E=0A$			1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=1V, I_C=0A$			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$	$V_{CE}=5V, I_C=50mA, f=1GHz$		16		dB
Noise Figure	NF	$V_{CE}=1V, I_C=10mA, f=1GHz$		1.2	1.8	dB

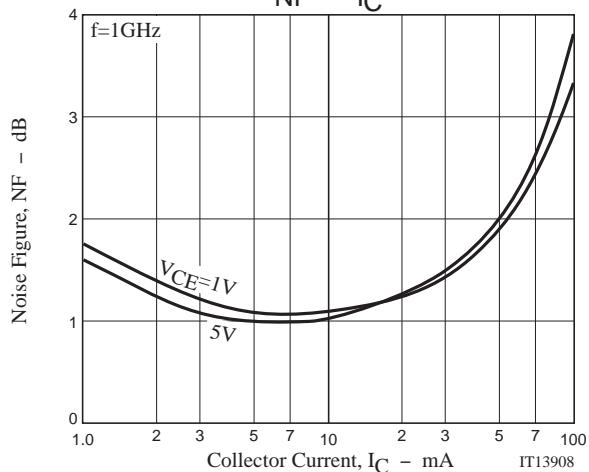
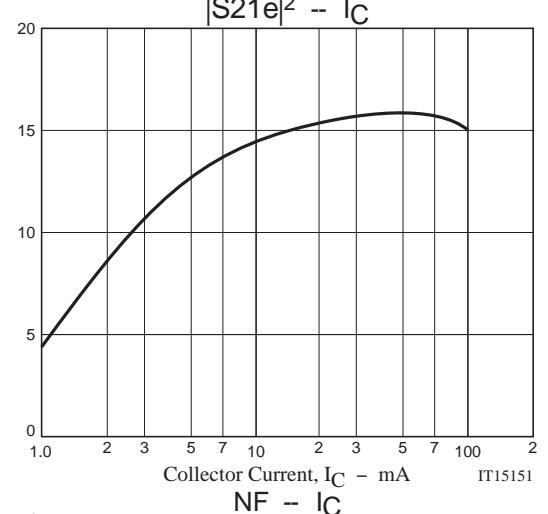
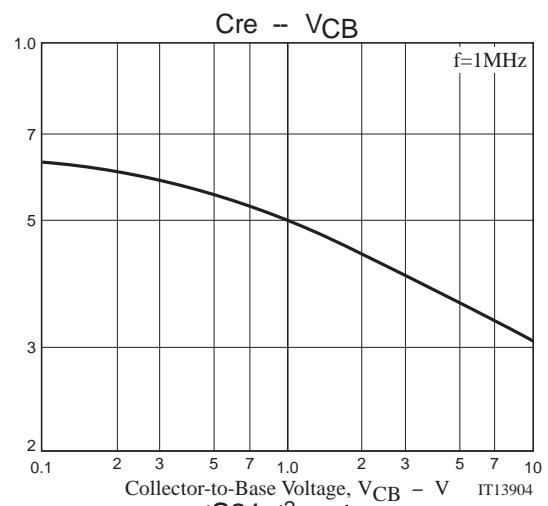
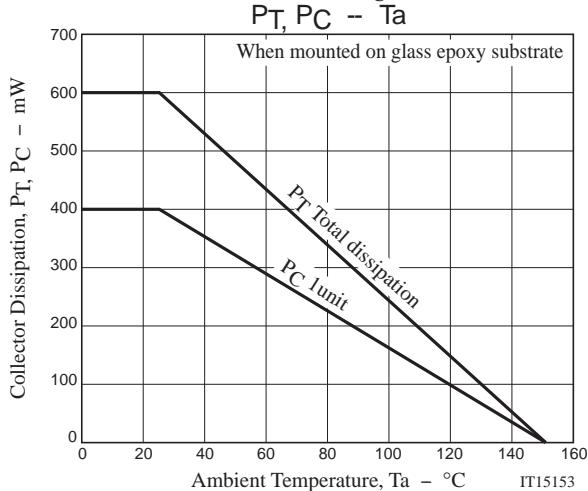
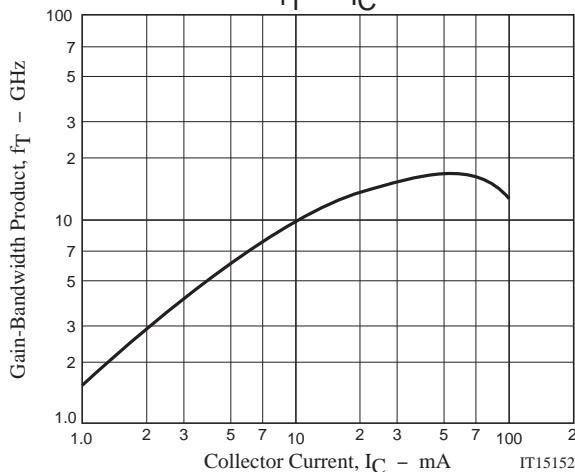
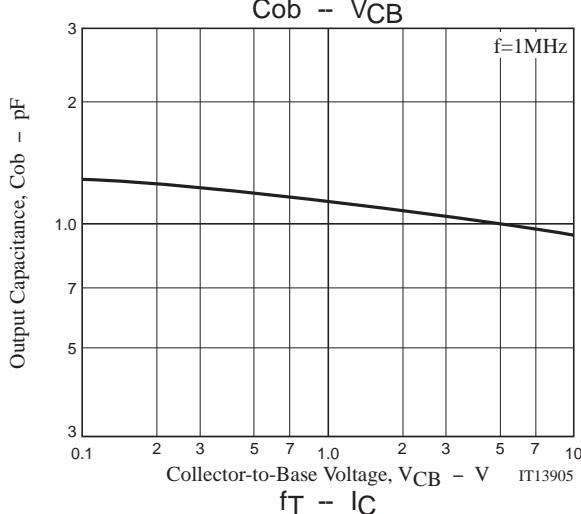
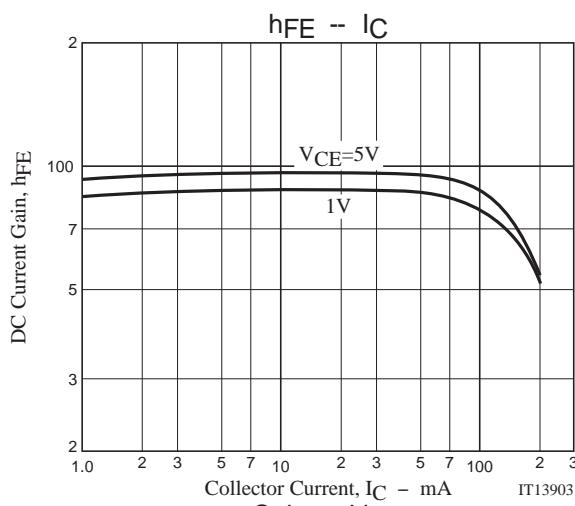
Note) Pay attention to handling since it is liable to be affected by static electricity due to the high-frequency process adopted.

Ordering Information

Device	Package	Shipping	memo
MCH6001-TL-E	MCPH6	3,000pcs./reel	Pb Free



MCH6001

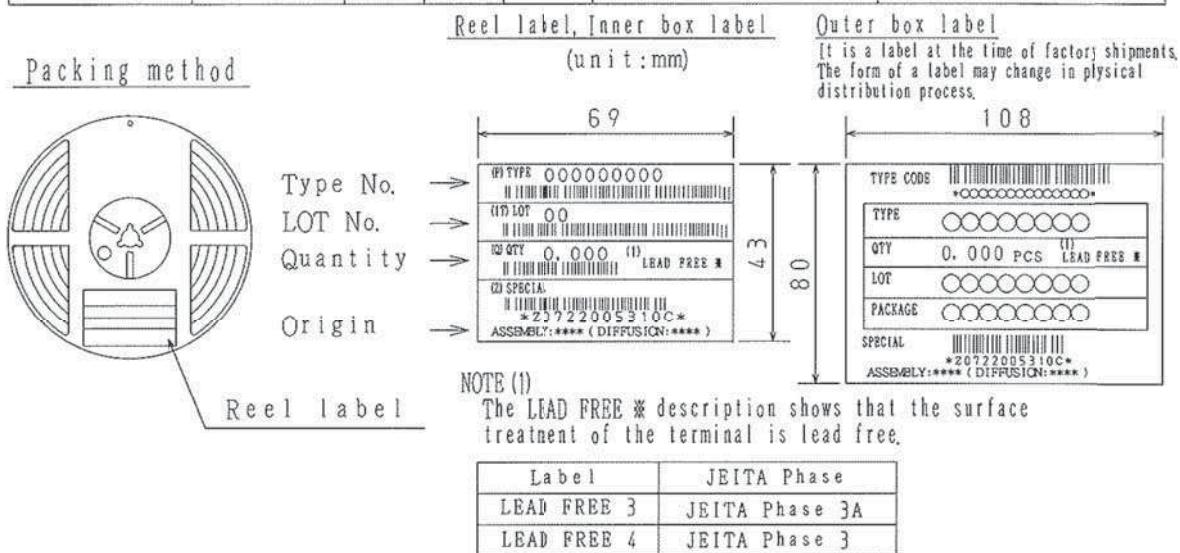


Embossed Taping Specification

MCH6001-TL-E

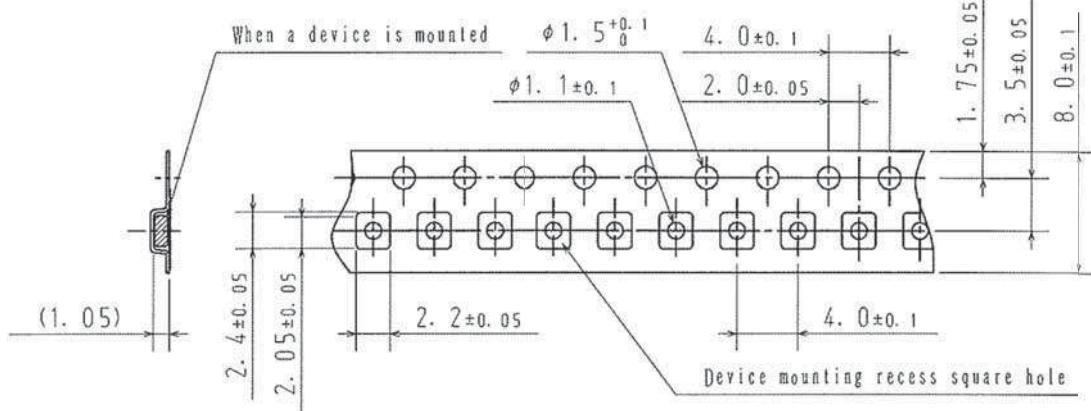
1. Packing Format

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)
MCPH6	MCP 4	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

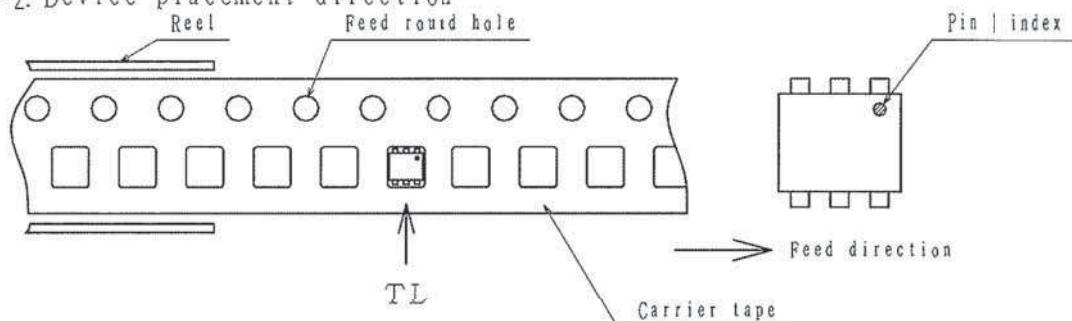


2. Taping configuration

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



2-2. Device placement direction

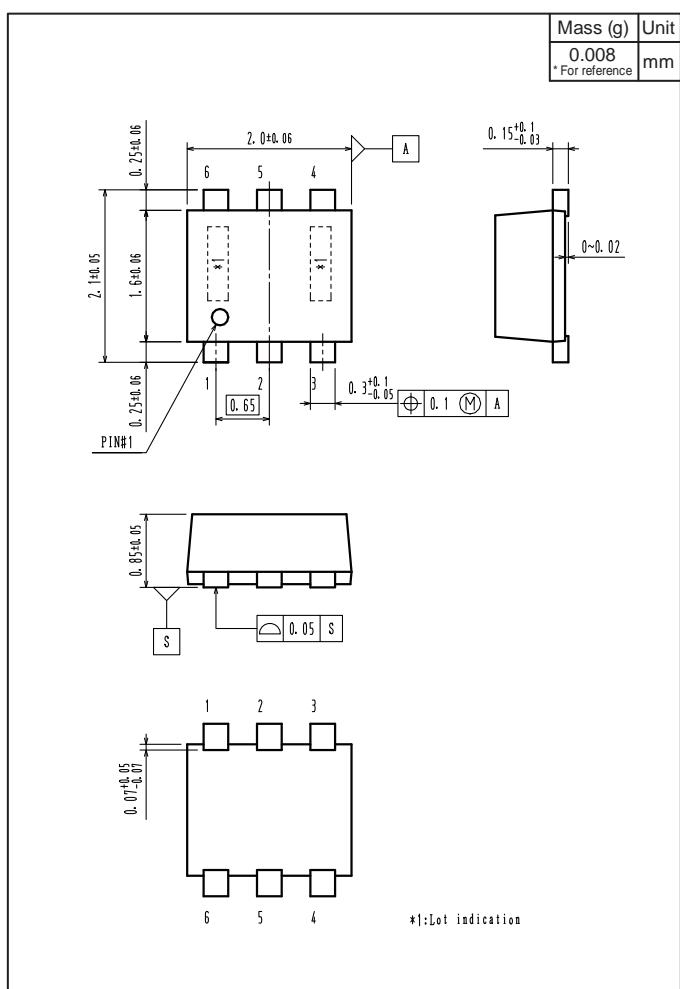


Those with pin 1 index on the feed hole side.....TL

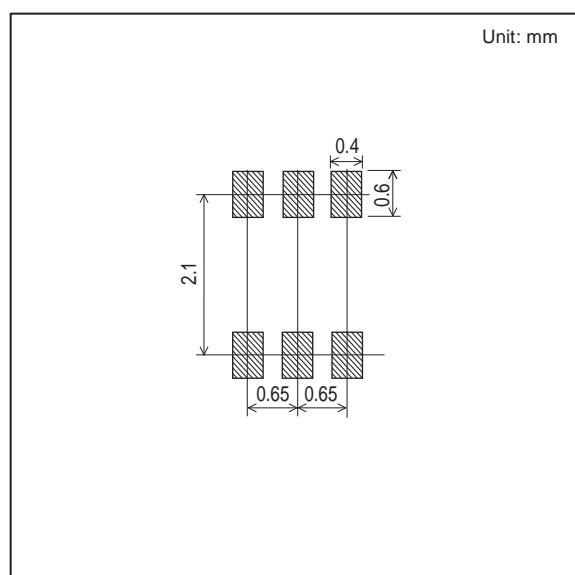
MCH6001

Outline Drawing

MCH6001-TL-E



Land Pattern Example



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