



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

PNP Epitaxial Planar Silicon Transistor

30A02MH — Low-Frequency General-Purpose Amplifier Applications

Applications

- Low-frequency Amplifier, high-speed switching small motor drive

Features

- Large current capacity
- Low collector-to-emitter saturation voltage (resistance) $R_{CE(sat)}$ typ=580m Ω [$I_C=0.7A$, $I_B=35mA$]
- Small ON-resistance (R_{on})

Specifications

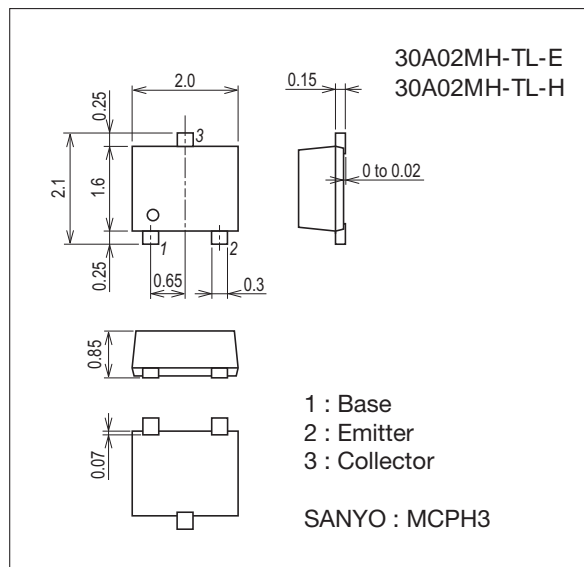
Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-30	V
Collector-to-Emitter Voltage	V_{CEO}		-30	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-700	mA
Collector Current (Pulse)	I_{CP}		-1.4	A
Collector Dissipation	P_C	When mounted on ceramic substrate (600mm ² x 0.8mm)	600	mW
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Package Dimensions

unit : mm (typ)

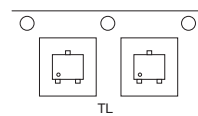
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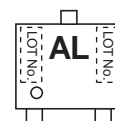
Product & Package Information

- Package : MCPH3
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

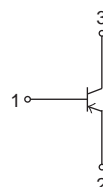
Packing Type : TL



Marking



Electrical Connection

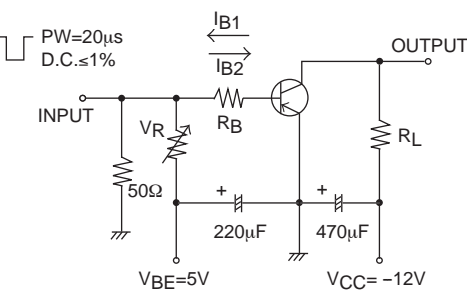


30A02MH

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} = -30V, I _E =0A			-100	nA
Emitter Cutoff Current	IEBO	V _{EB} = -4V, I _C =0A			-100	nA
DC Current Gain	h _{FE}	V _{CE} = -2V, I _C = -10mA	200		500	
Gain-Bandwidth Product	f _T	V _{CE} = -10V, I _C = -50mA		520		MHz
Output Capacitance	C _{ob}	V _{CB} = -10V, f=1MHz		4.7		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C = -200mA, I _B = -10mA		-110	-220	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C = -200mA, I _B = -10mA		-0.9	-1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C = -10μA, I _E =0A	-30			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = -1mA, R _{BE} =∞	-30			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E = -10μA, I _C =0A	-5			V
Turn-ON Time	t _{on}	See specified Test Circuit.		35		ns
Storage Time	t _{stg}			125		ns
Fall Time	t _f			25		ns

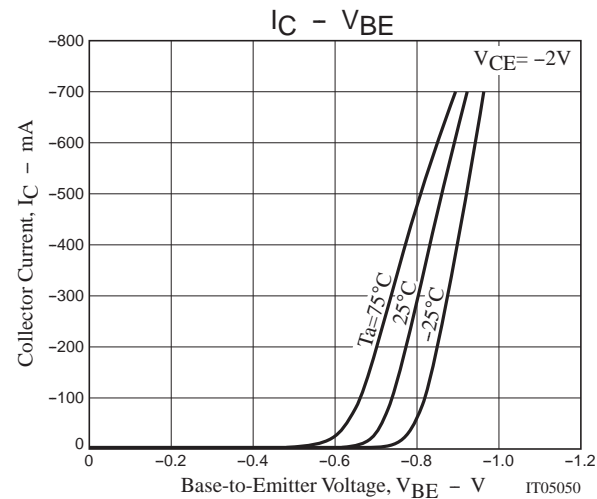
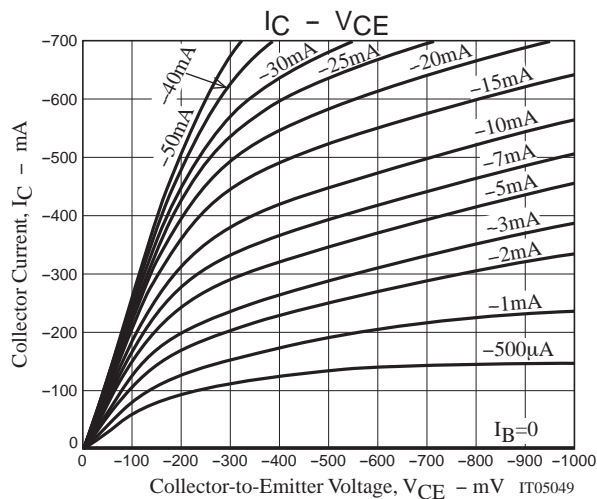
Switching Time Test Circuit



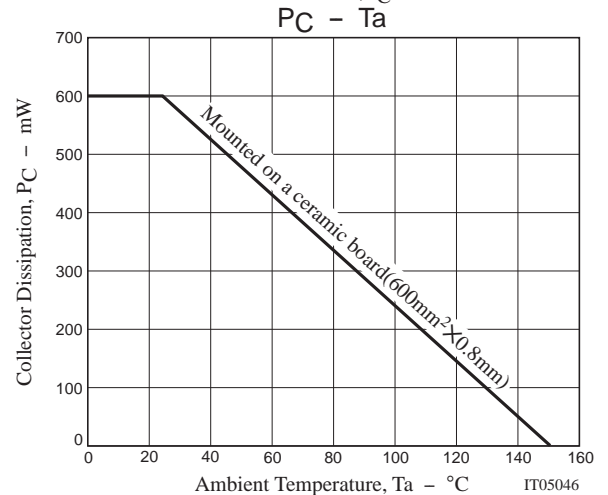
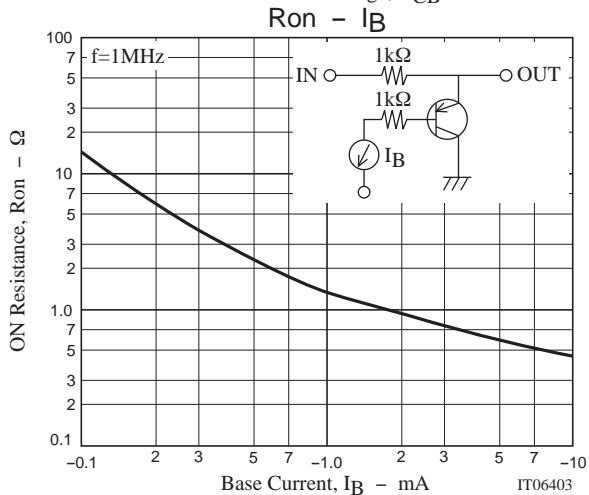
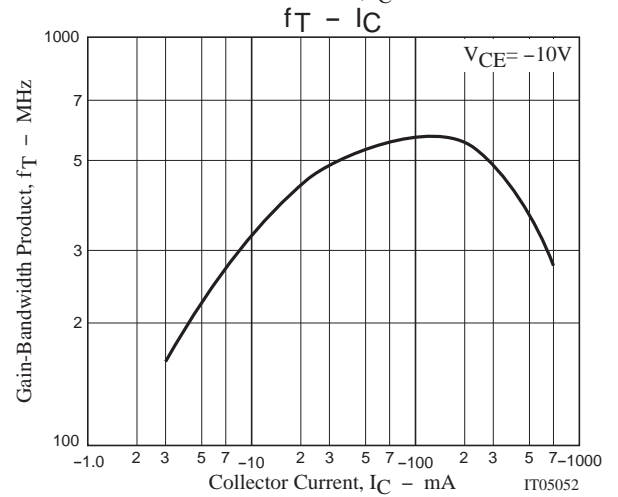
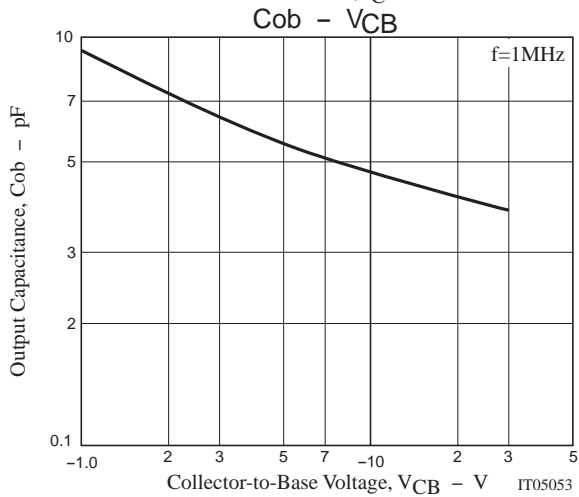
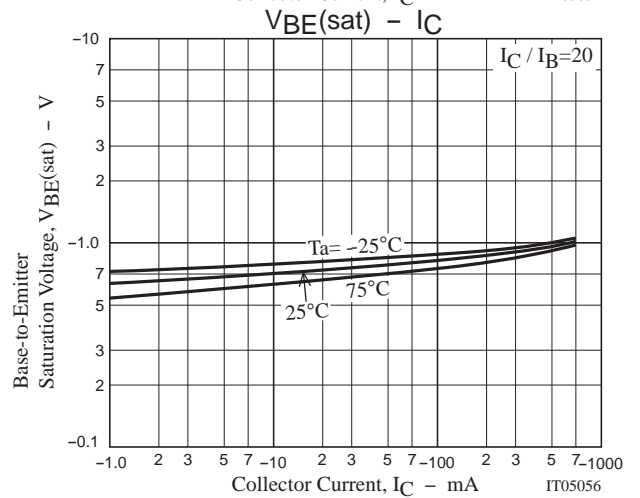
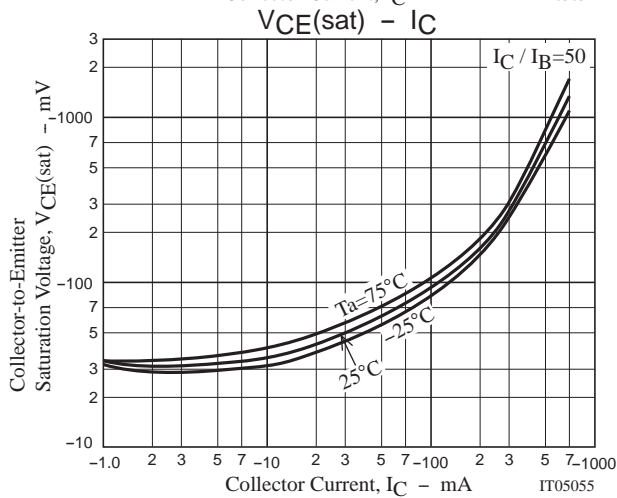
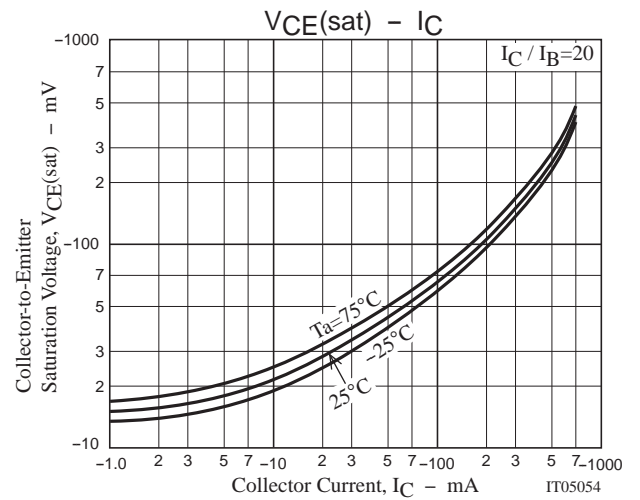
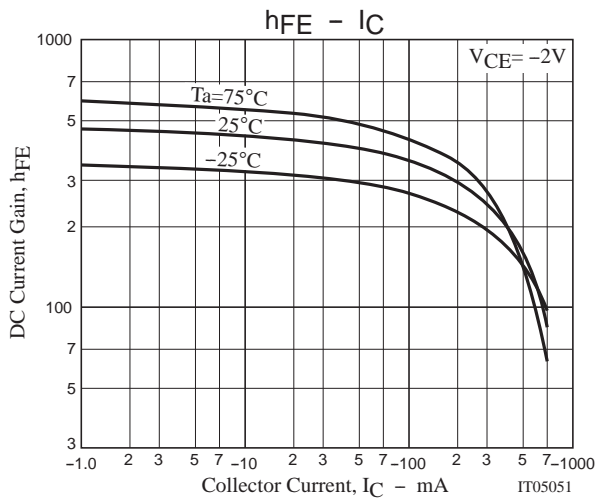
$I_C=20I_{B1}= -20I_{B2}= -300mA$

Ordering Information

Device	Package	Shipping	memo
30A02MH-TL-E	MCPH3	3,000pcs./reel	Pb Free
30A02MH-TL-H	MCPH3	3,000pcs./reel	Pb Free and Halogen Free



30A02MH



30A02MH

Embossed Taping Specification

30A02MH-TL-E, 30A02MH-TL-H

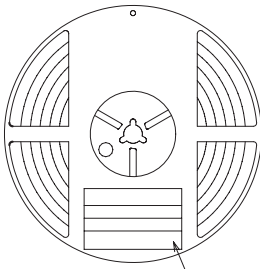
1. Packing Format

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)
MCPH3	MCPH3	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



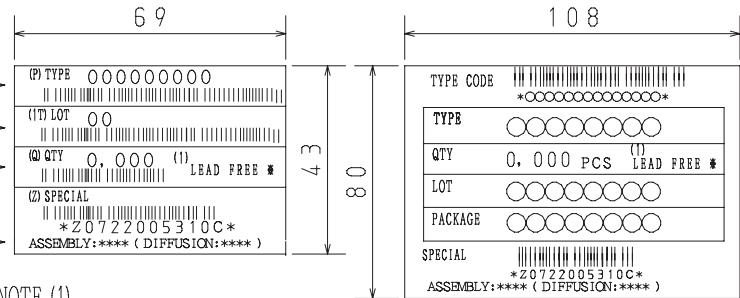
Reel label

Type No.

LOT No.

Quantity

Origin



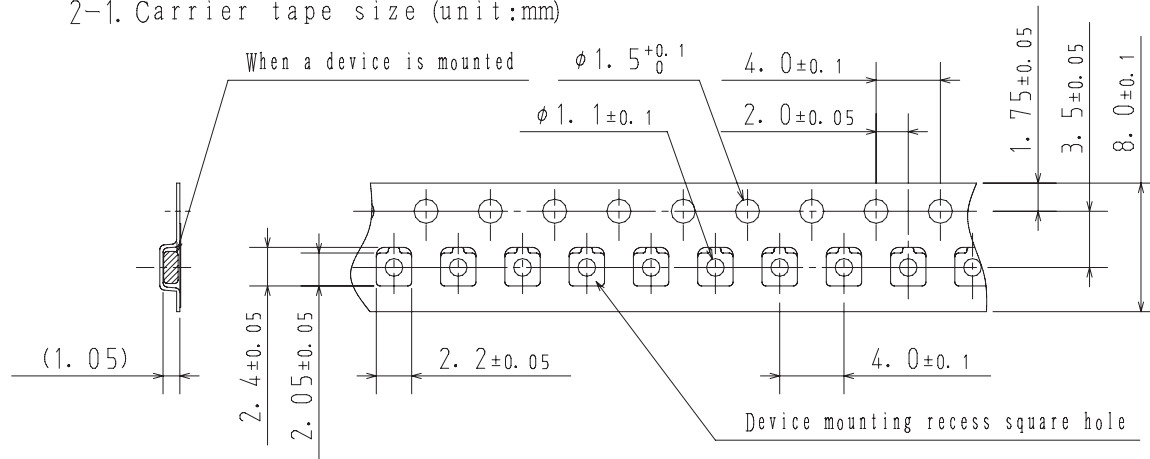
NOTE (1)

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

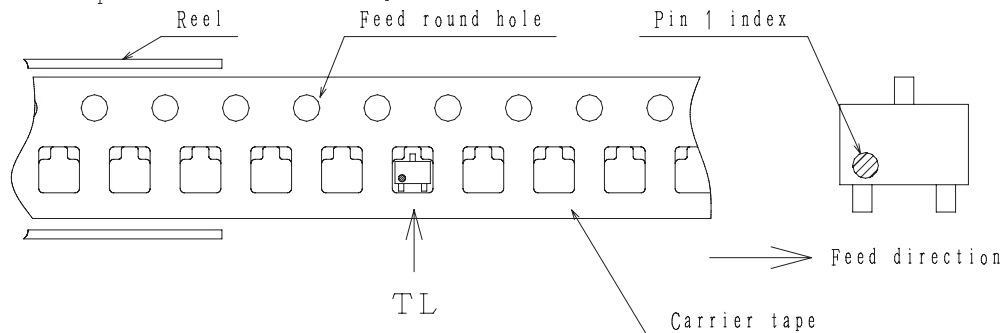
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

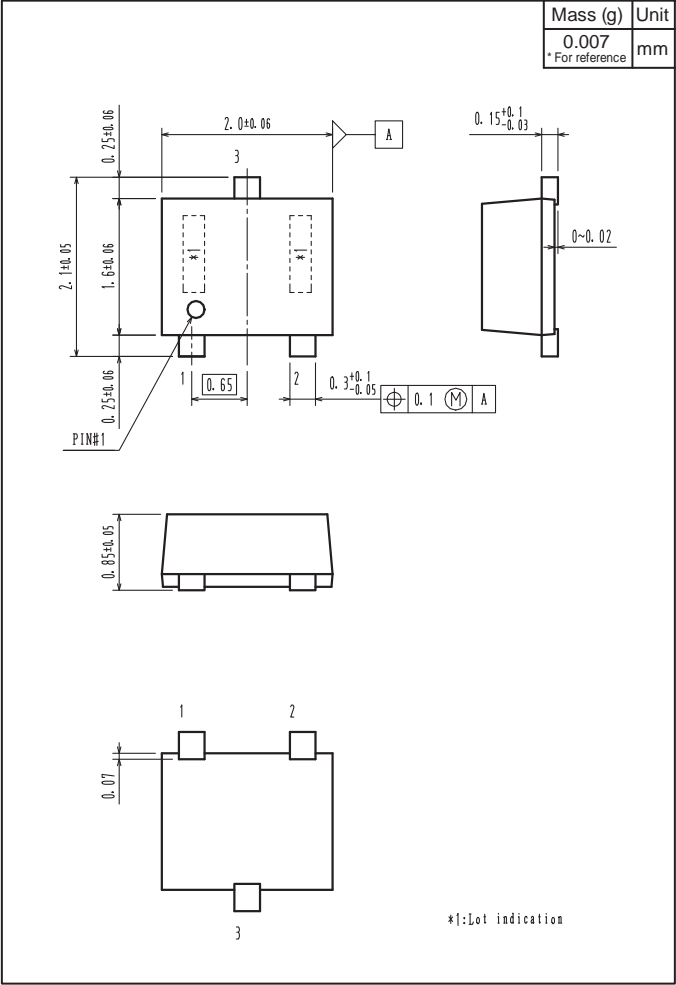


Those with pin 1 index on the feed hole side.....TL

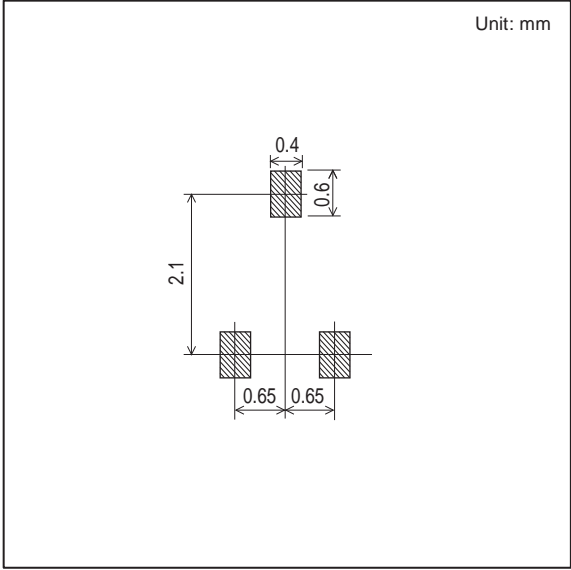
30A02MH

Outline Drawing

30A02MH-TL-E, 30A02MH-TL-H



Land Pattern Example



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