



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH6536 — PNP / NPN Epitaxial Planar Silicon Transistor

Push-Pull Circuit Applications

Applications

- MOSFET gate drivers, low-frequency power amplifier, high-speed switching, motor drivers

Features

- Composite type with a PNP transistor and an NPN transistor contained in one package facilitating high-density mounting
- Ultrasmall package permitting applied sets to be small and slim
- Small ON-resistance (Ron)

Specifications () : PNP

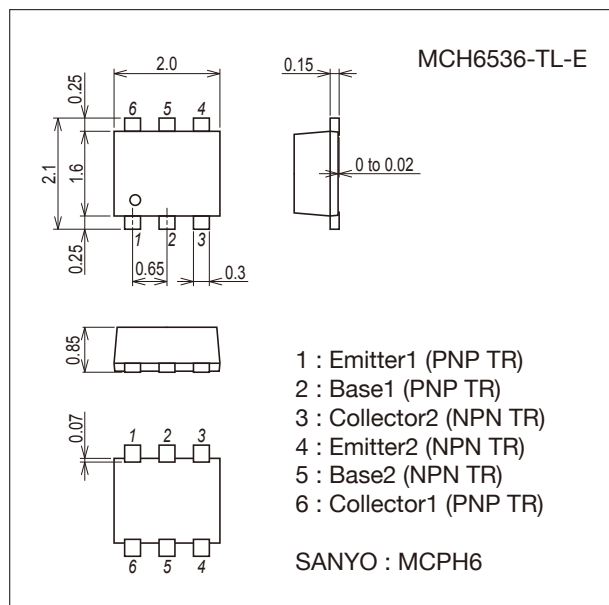
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(-15)20	V
Collector-to-Emitter Voltage	VCEO		(-12)15	V
Emitter-to-Base Voltage	VEBO		(-5)	V
Collector Current	IC		(-500)700	mA
Collector Current (Pulse)	ICP		(-1.0)1.4	A
Collector Dissipation	PC	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.5	W
Total Power Dissipation	PT	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.55	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

unit : mm (typ)

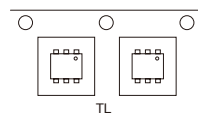
7022A-012



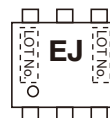
Product & Package Information

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

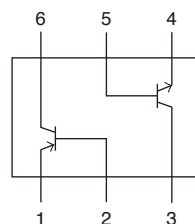
Packing Type : TL



Marking



Electrical Connection



SANYO Semiconductor Co., Ltd.

<http://www.sanyosemi.com/en/network/>

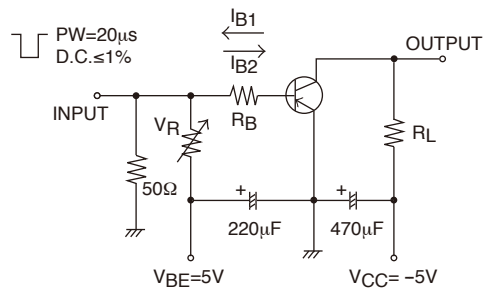
MCH6536

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =(-12)15V, 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	300		(700)800	
Gain-Bandwidth Product	f _T	V _{CE} =(-)2V, I _C =(-)50mA		(490)330		MHz
Output Capacitance	Cob	V _{CB} =(-)10V, f=1MHz		(4)3.2		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)200mA, I _B =(-)10mA		(-)150	(-)300	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	(-15)20			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =(-)1mA, R _{BE} =∞	(-12)15			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.		30		ns
Storage Time	t _{stg}			(57)77		ns
Fall Time	t _f			(30)40		ns

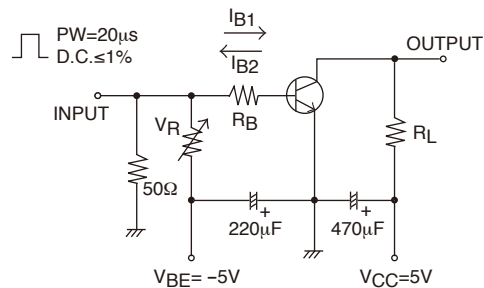
Switching Time Test Circuit

[PNP]



$I_C = 20I_{B1} = -20I_{B2} = -400\text{mA}$

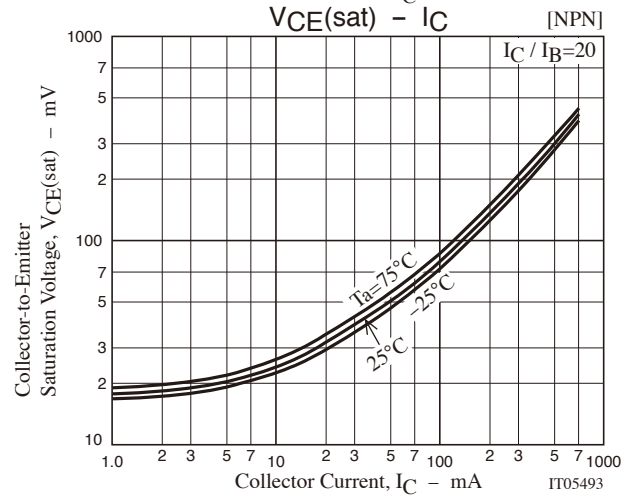
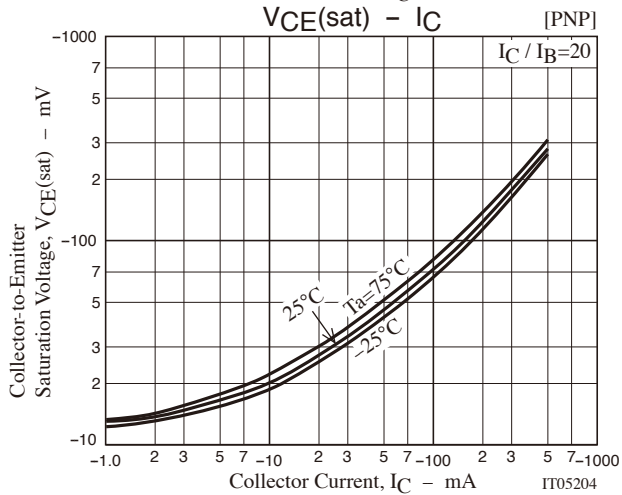
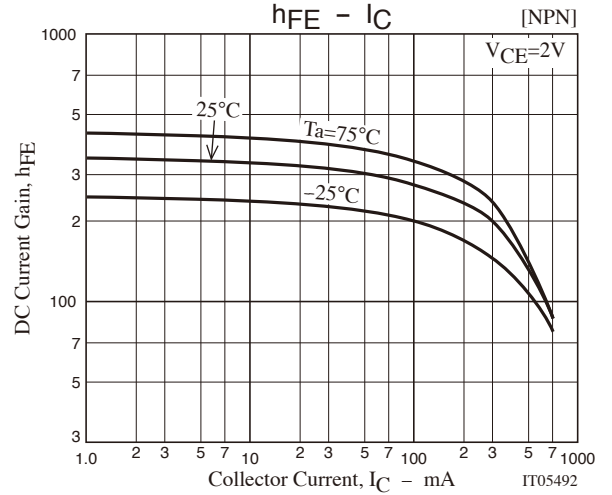
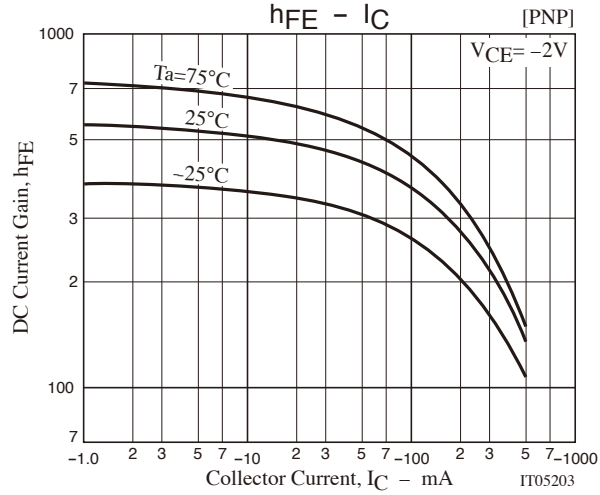
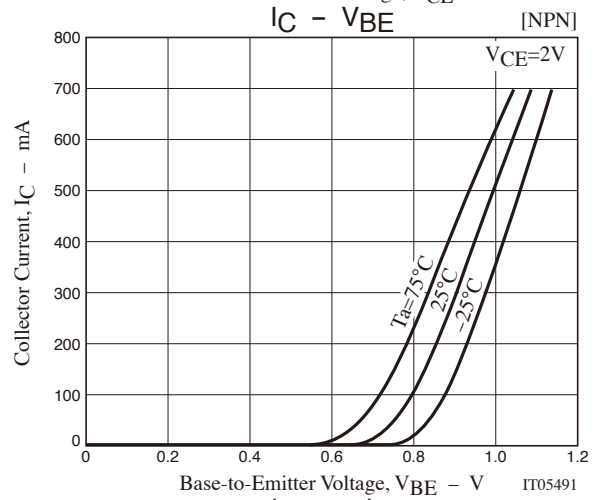
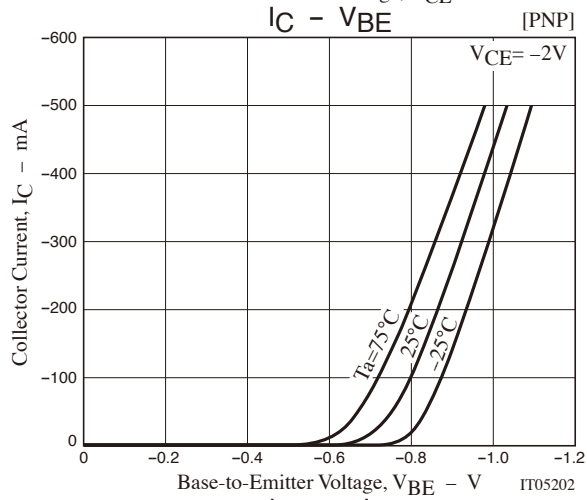
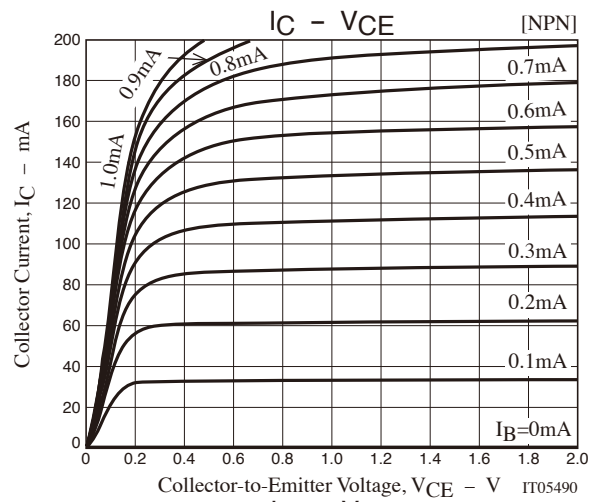
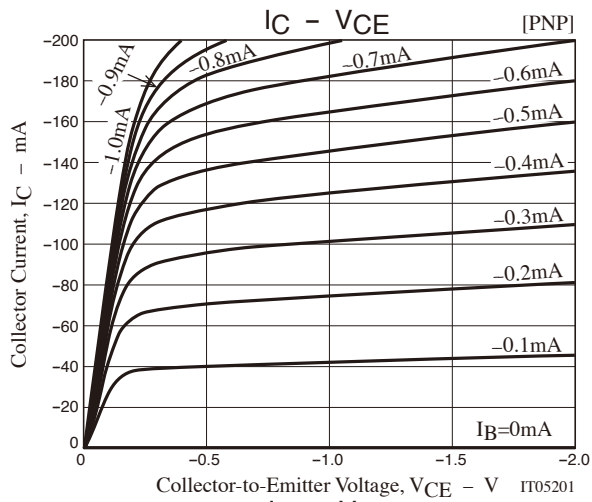
[NPN]

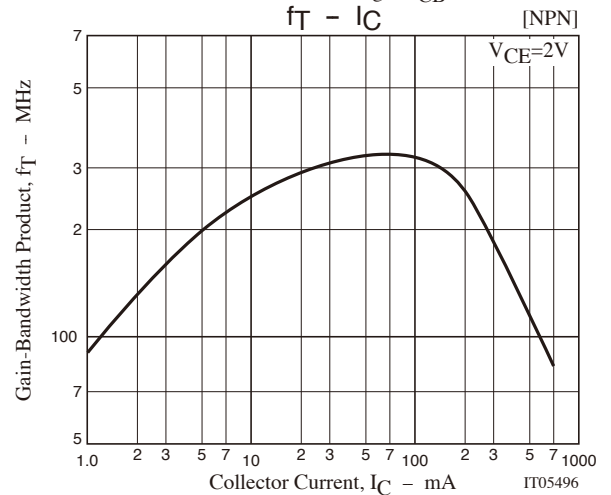
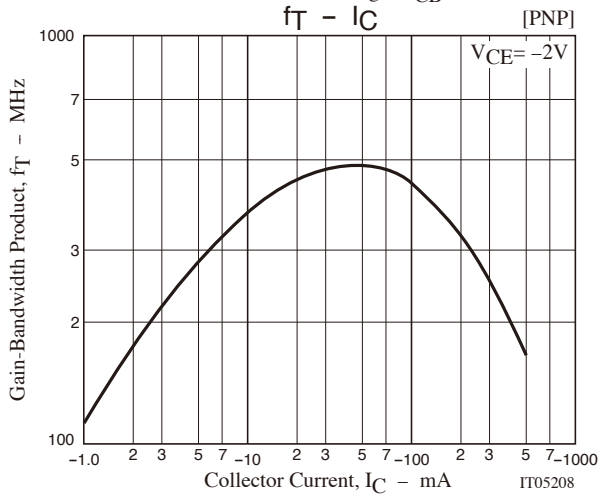
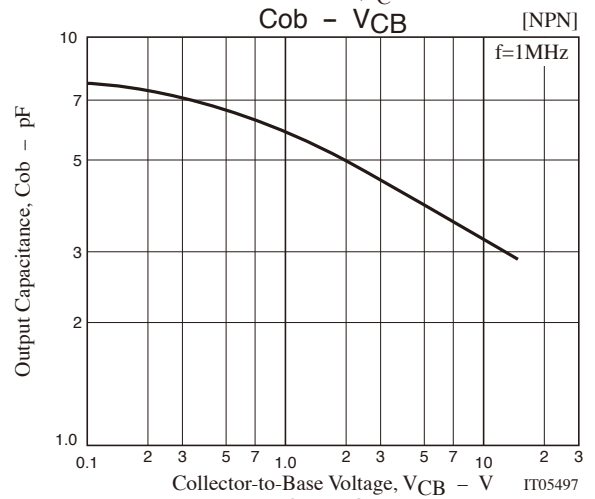
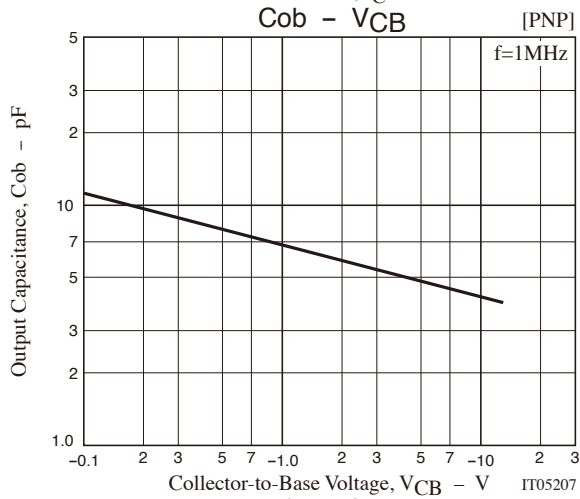
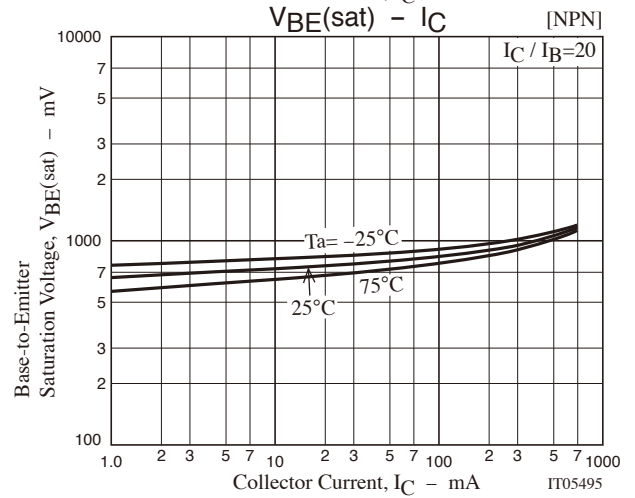
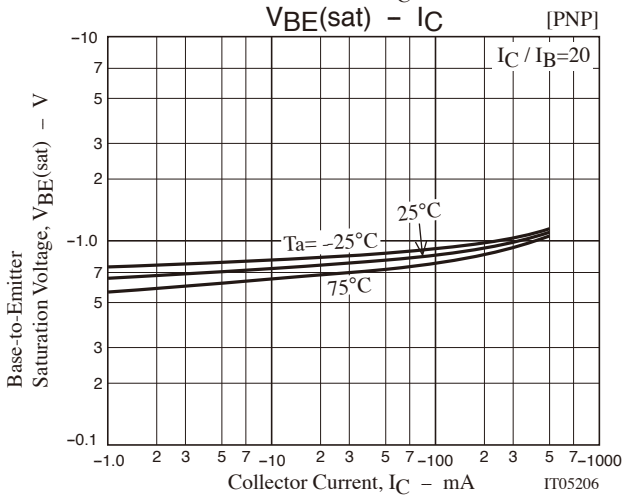
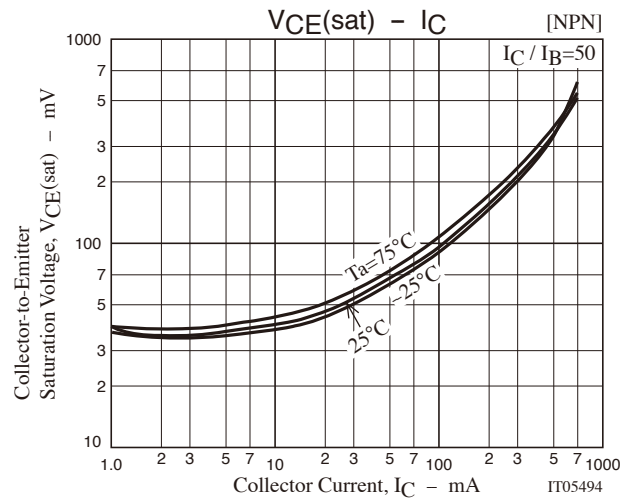
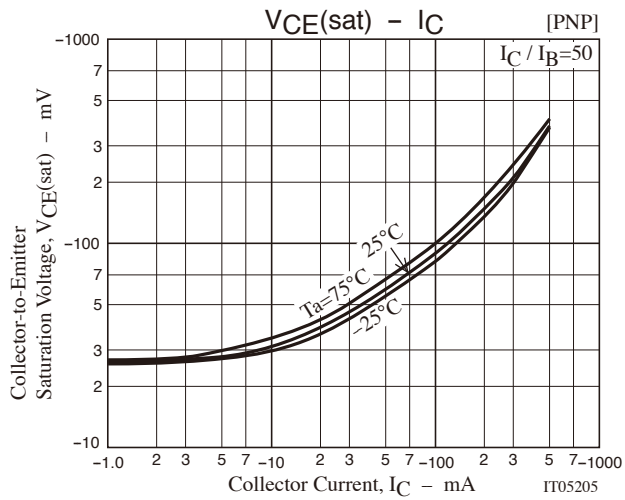


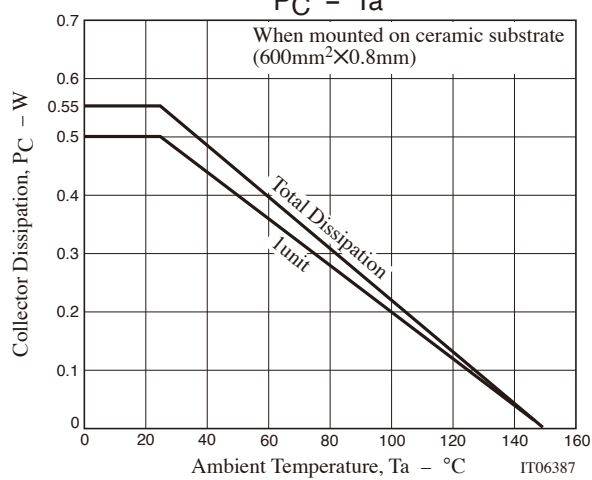
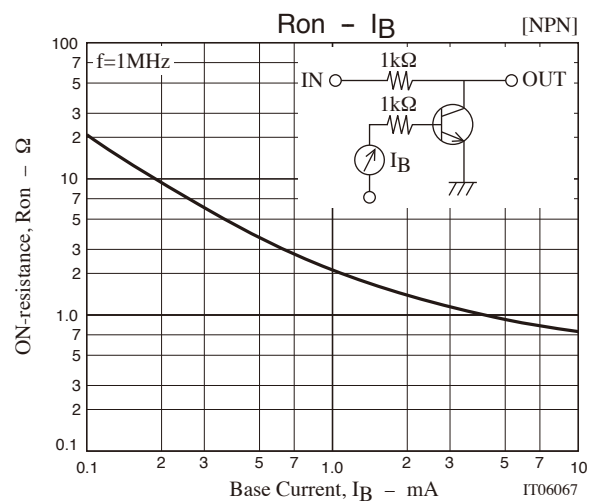
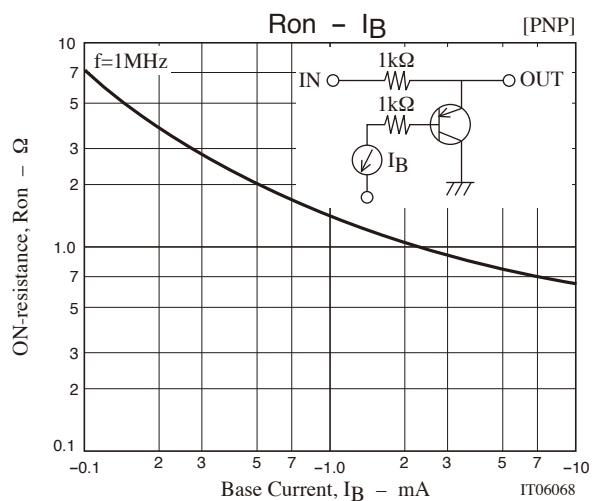
$I_C = 20I_{B1} = -20I_{B2} = 500\text{mA}$

Ordering Information

Device	Package	Shipping	memo
MCH6536-TL-E	MCPH6	3,000pcs./reel	Pb Free







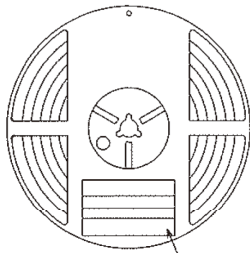
Embossed Taping Specification

MCH6536-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	MCP4	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

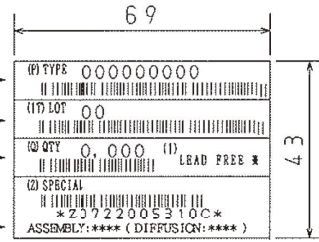
Packing method



Type No.
LOT No.
Quantity
Origin

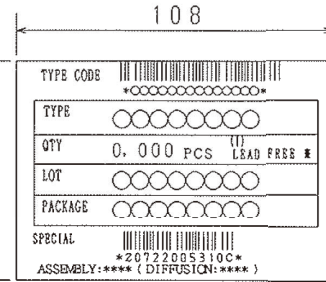
Reel label

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.



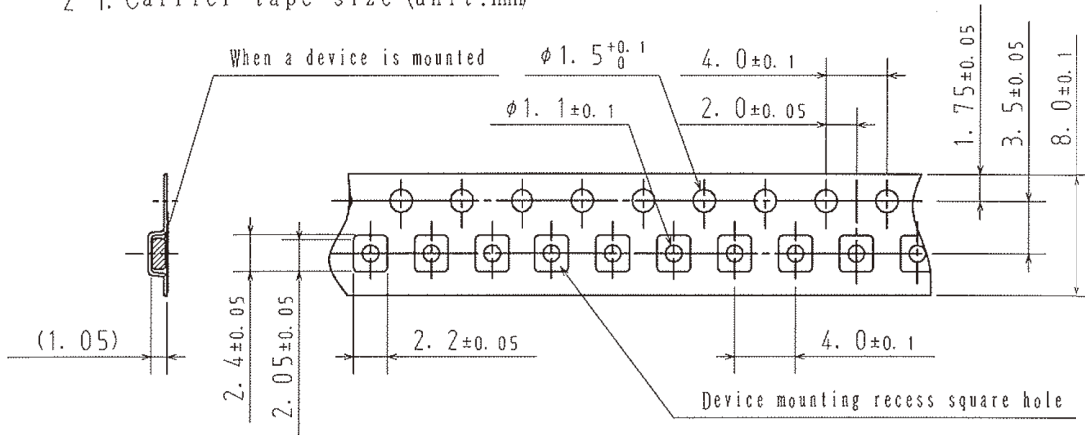
NOTE (1)

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

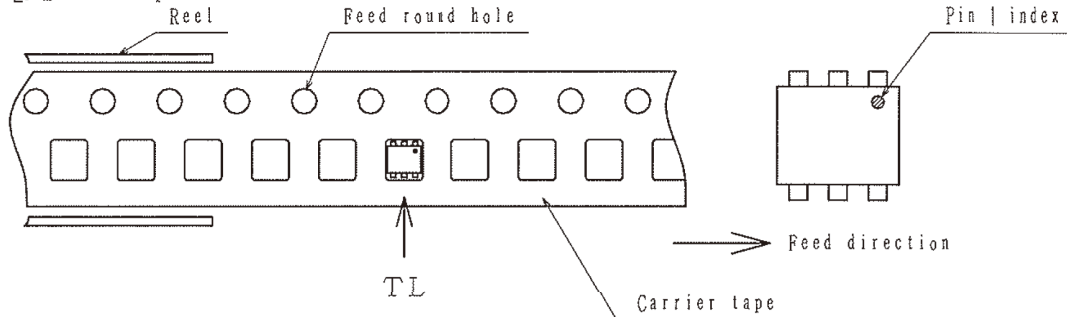
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction



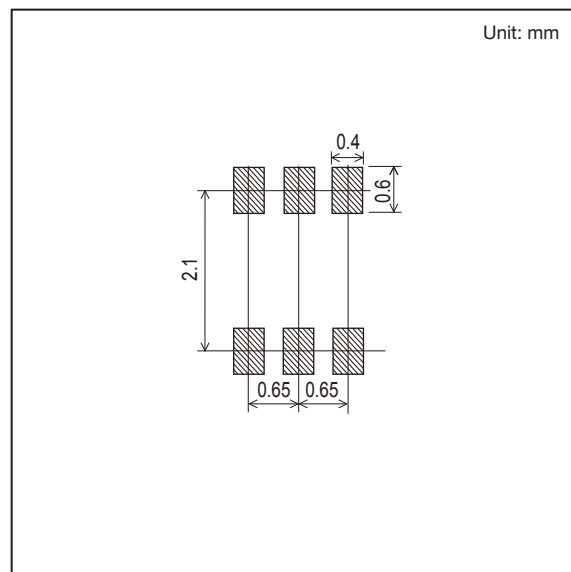
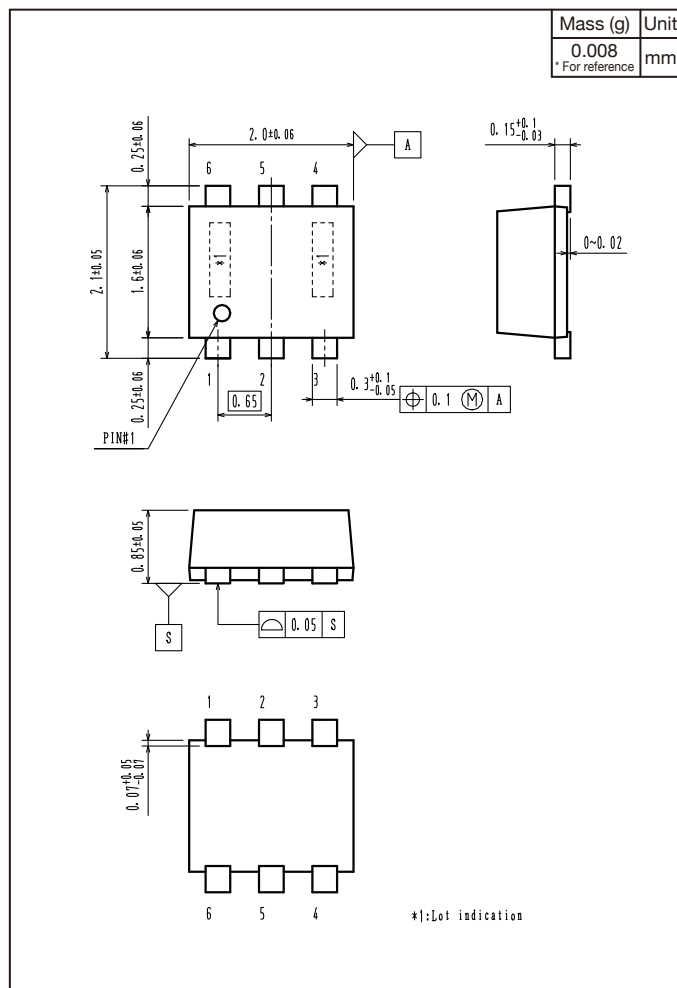
Those with pin 1 index on the feed hole side.....TL

MCH6536

Outline Drawing

MCH6536-TL-E

Land Pattern Example



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