



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH6544 — NPN Epitaxial Planar Silicon Transistor Inverter Circuit / Driver Applications

Applications

- Relay drivers, lamp drivers, motor drivers

Features

- Composite type with an NPN transistor contained in one package facilitating high-density mounting
- Ultrasmall package facilitates miniaturization in end products

Specifications

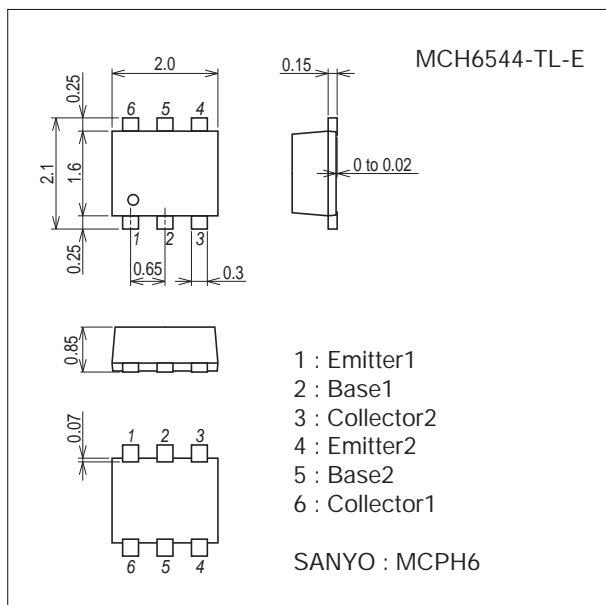
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		60	V
Collector-to-Emitter Voltage	VCEO		50	V
Emitter-to-Base Voltage	VEBO		5	V
Collector Current	IC		500	mA
Collector Current (Pulse)	ICP		1.5	A
Collector Dissipation	PC	When mounted on ceramic substrate (600mm ² ×0.8mm) 1unit	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)

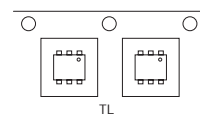
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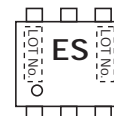
Product & Package Information

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

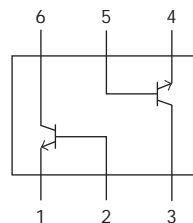
Packing Type : TL



Marking



Electrical Connection

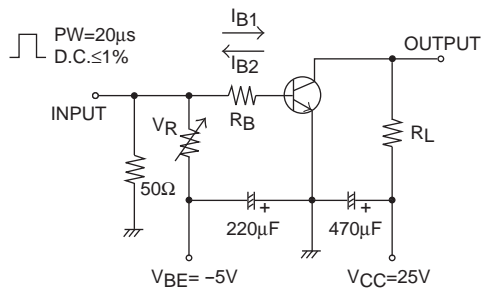


MCH6544

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0\text{A}$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0\text{A}$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=2\text{V}, I_C=10\text{mA}$	300		800	
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}$		500		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		2.8		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		50	100	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.9	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0\text{A}$	60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0\text{A}$	5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}			340		ns
Fall Time	t_f			55		ns

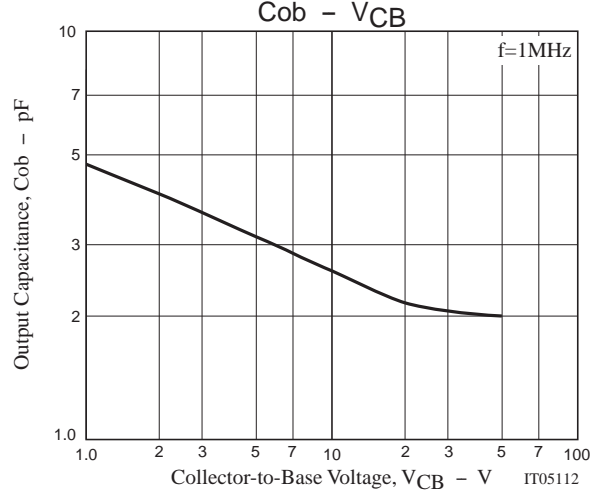
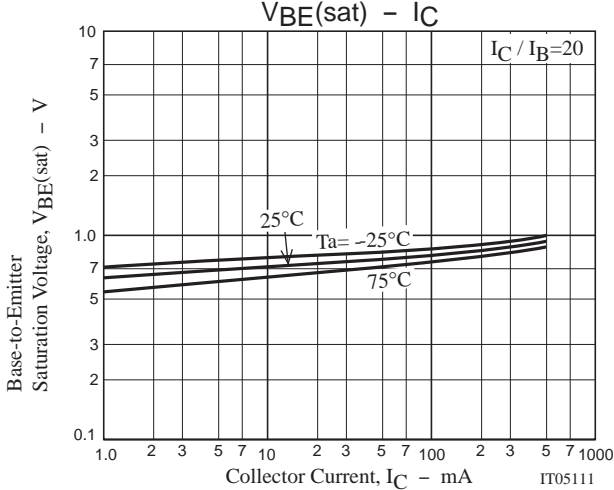
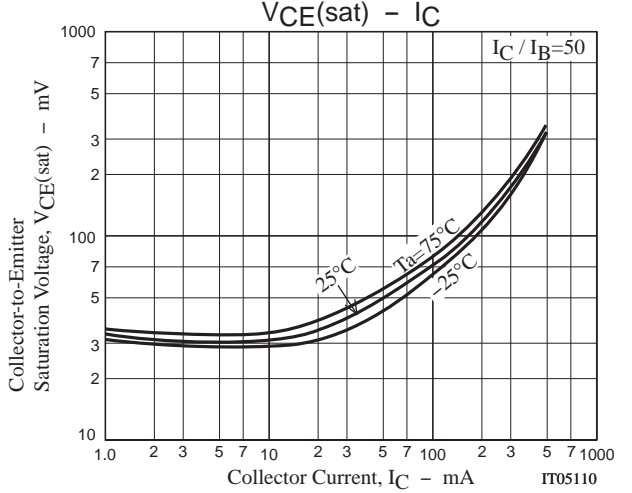
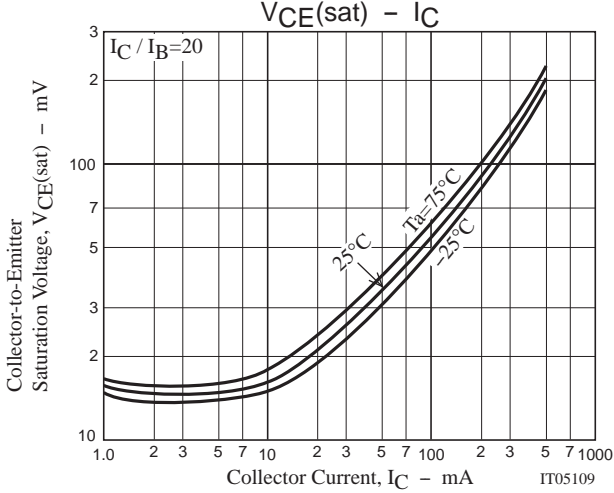
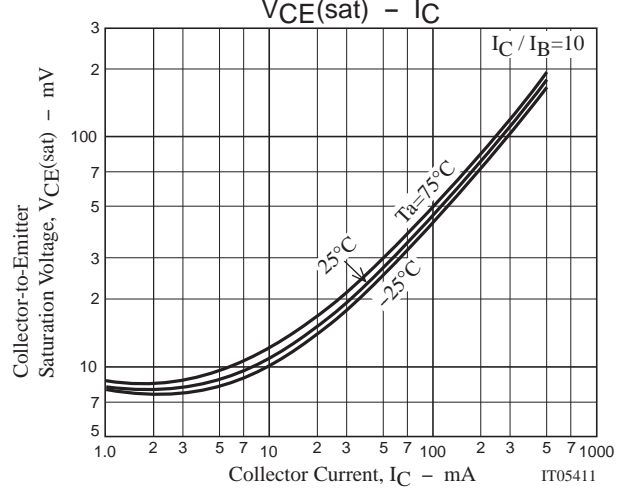
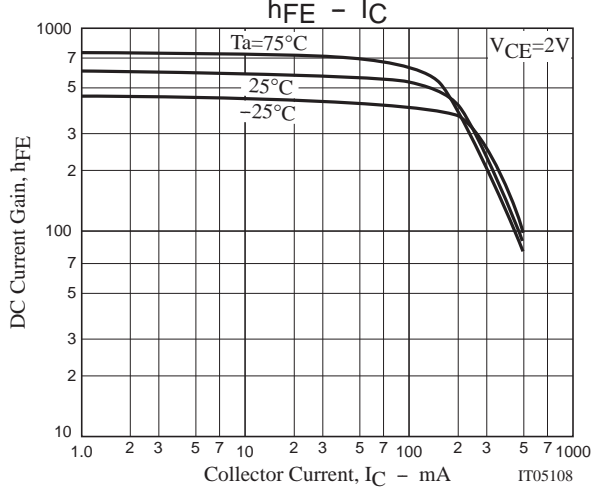
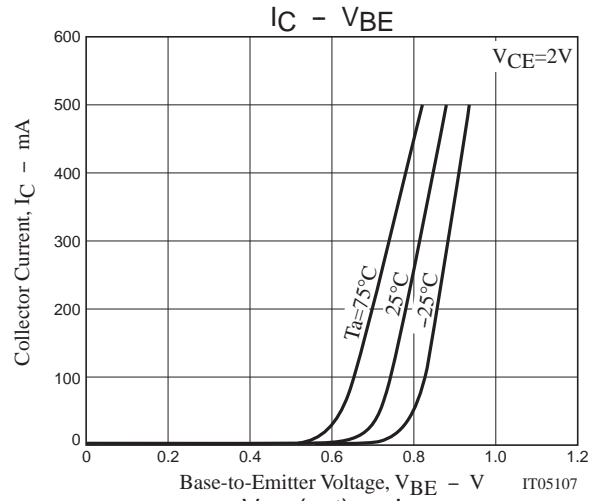
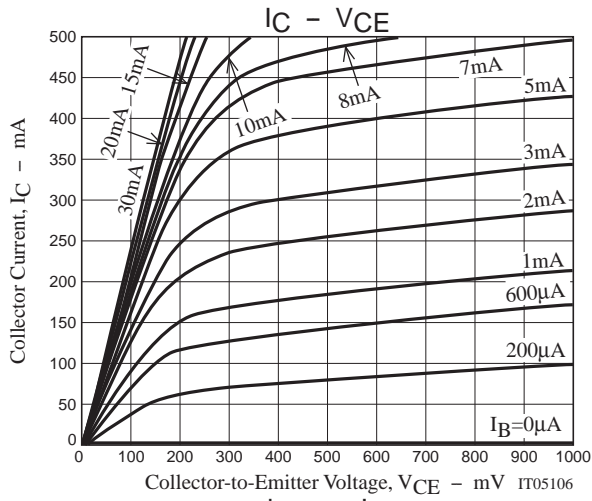
Switching Time Test Circuit



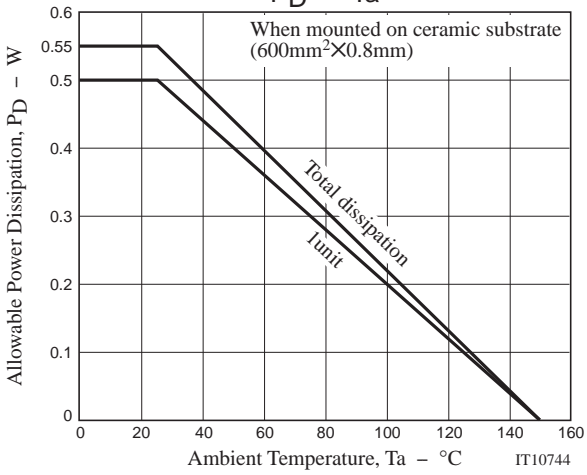
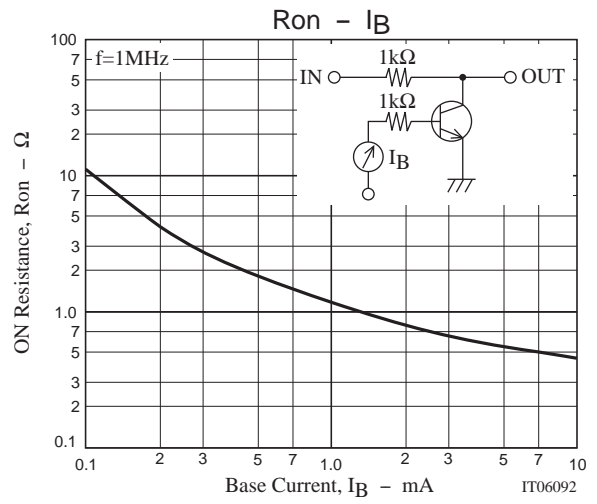
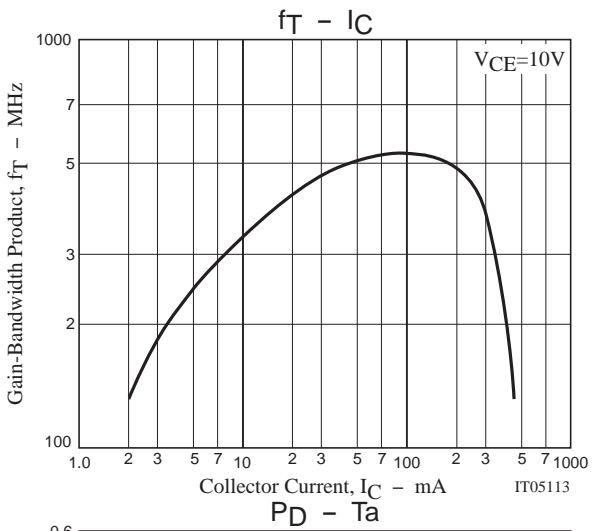
$$I_C = 20I_{B1} = -20I_{B2} = 200\text{mA}$$

Ordering Information

Device	Package	Shipping	memo
MCH6544-TL-E	MCPH6	3,000pcs./reel	Pb Free



MCH6544



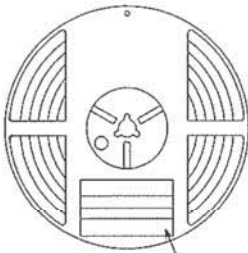
Embossed Taping Specification

MCH6544-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

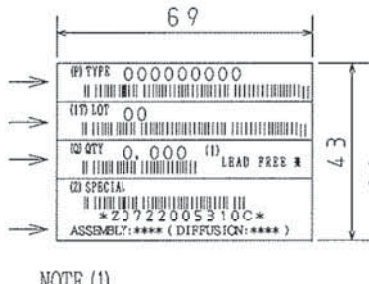
Packing method



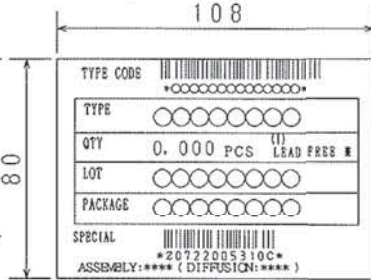
Type No.
LOT No.
Quantity
Origin

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.)



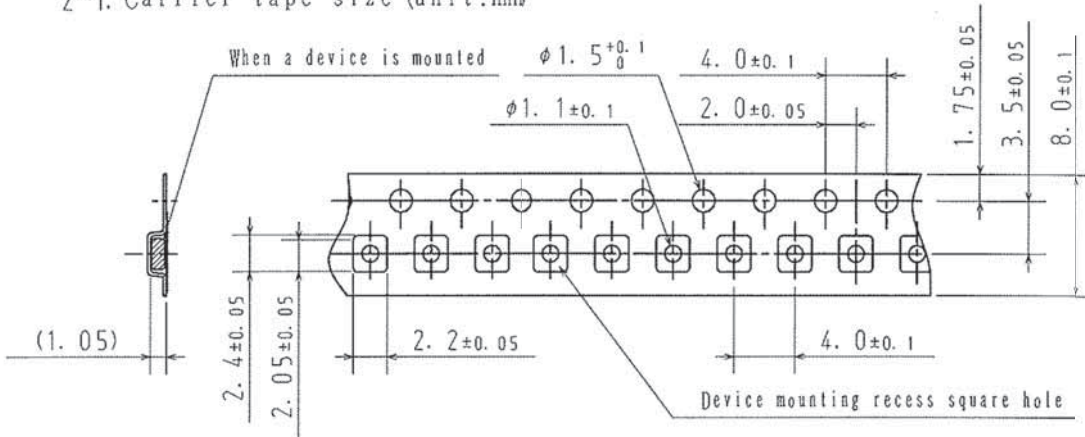
NOTE (1)

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

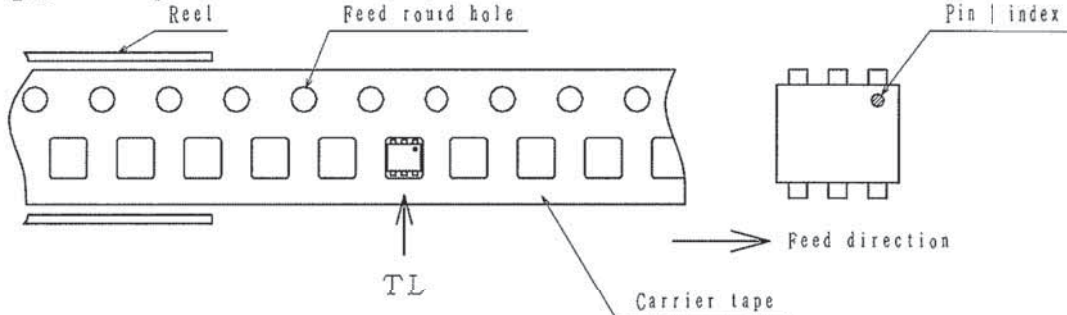
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

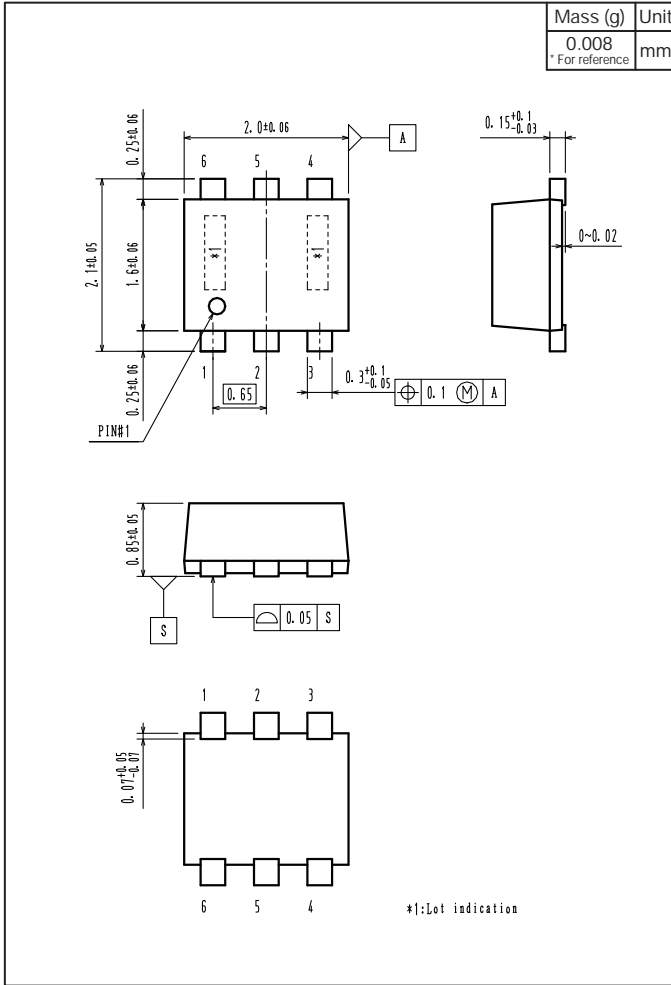


Those with pin | index on the feed hole side.....TL

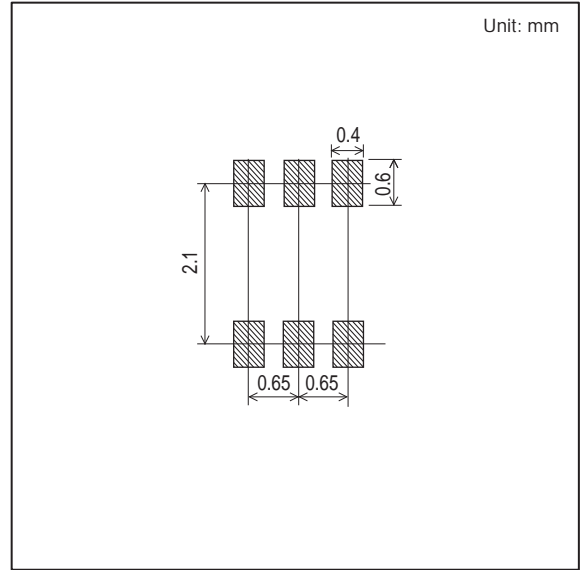
MCH6544

Outline Drawing

MCH6544-TL-E



Land Pattern Example



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