



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

MCH3106 — PNP Epitaxial Planar Silicon Transistor

DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers, flash

Features

- Adoption of MBIT processes
- Low collector-to-emitter saturation voltage
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.85mm)
- High allowable power dissipation
- Large current capacity
- High-speed switching

Specifications

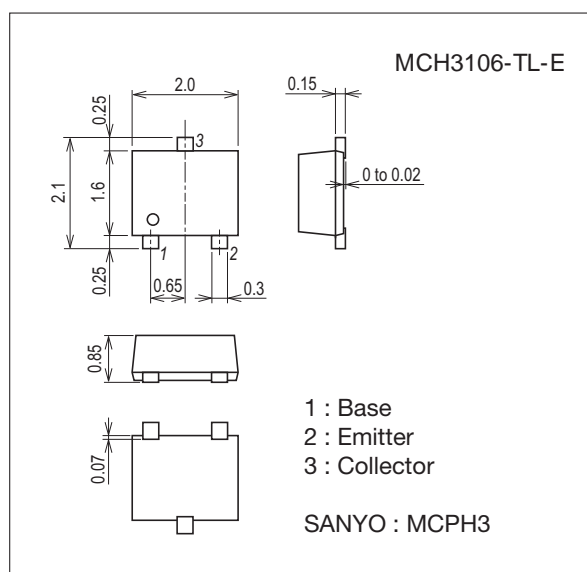
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-15	V
Collector-to-Emitter Voltage	V_{CE0}		-12	V
Emitter-to-Base Voltage	V_{EB0}		-5	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-5	A
Base Current	I_B		-600	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.9	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

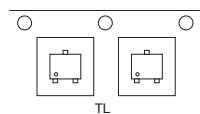
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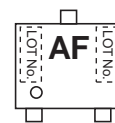
Product & Package Information

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

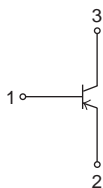
Packing Type : TL



Marking



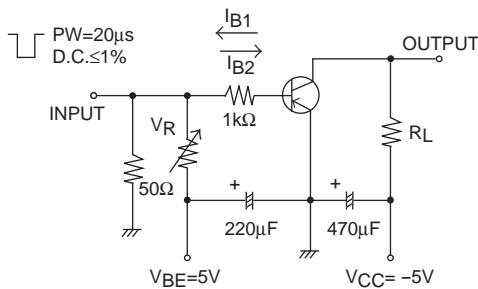
Electrical Connection



Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCB=-12V, IE=0A			-0.1	μA
Emitter Cutoff Current	IEBO	VEB=-4V, IC=0A			-0.1	μA
DC Current Gain	hFE	VCE=-2V, IC=-500mA	200		560	
Gain-Bandwidth Product	fT	VCE=-2V, IC=-500mA		280		MHz
Output Capacitance	Cob	VCB=-10V, f=1MHz		36		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=-1.5A, IB=-30mA		-110	-165	mV
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=-1.5A, IB=-30mA		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=-10μA, IE=0A	-15			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=-1mA, RE=∞	-12			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=-10μA, IC=0A	-5			V
Turn-On Time	ton	See specified Test Circuit.		30		ns
Storage Time	tstg			90		ns
Fall Time	tf			10		ns

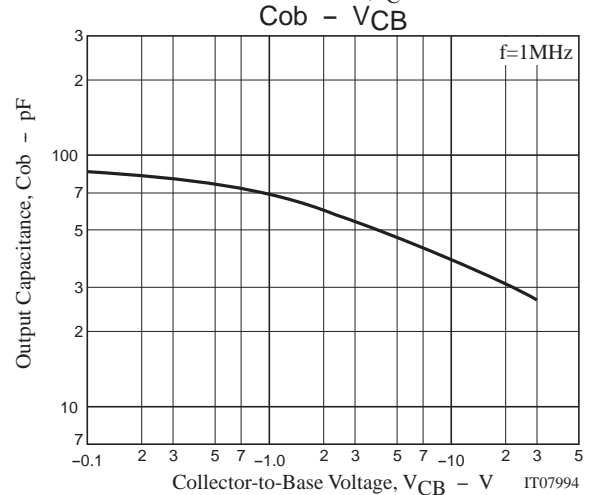
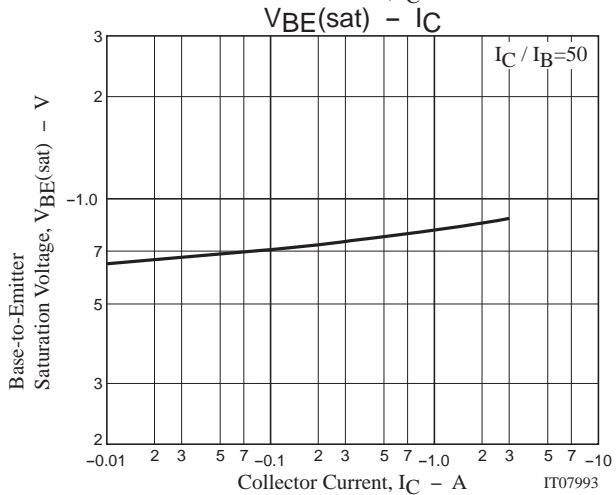
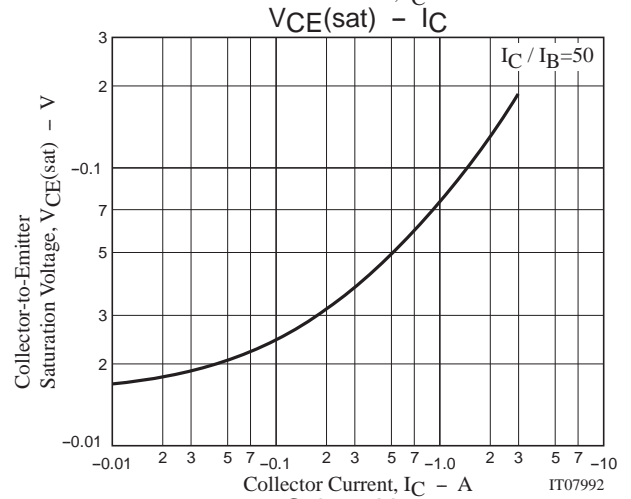
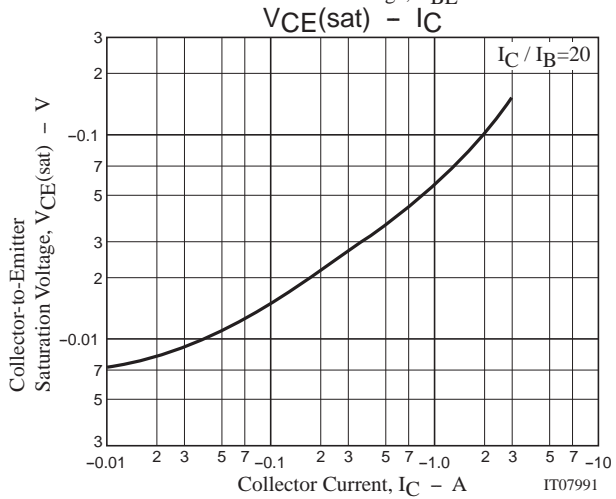
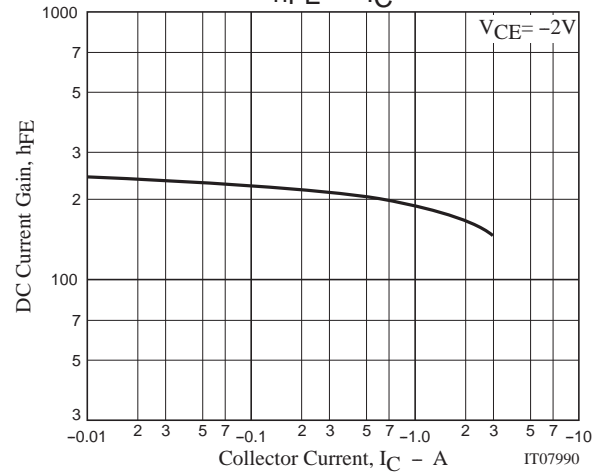
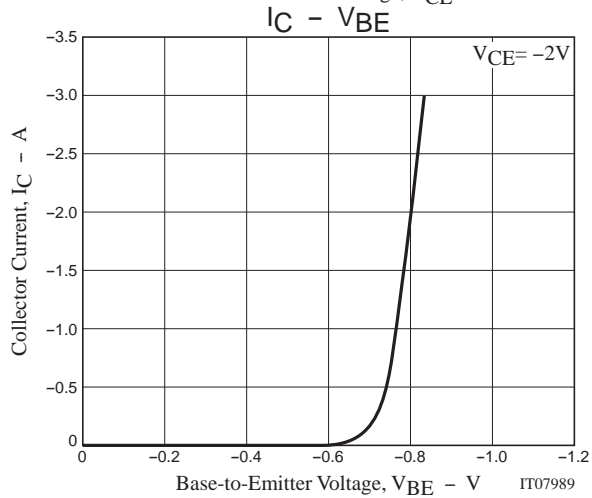
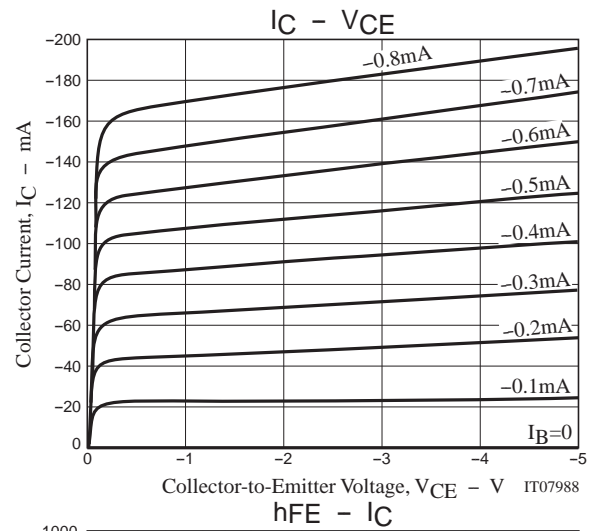
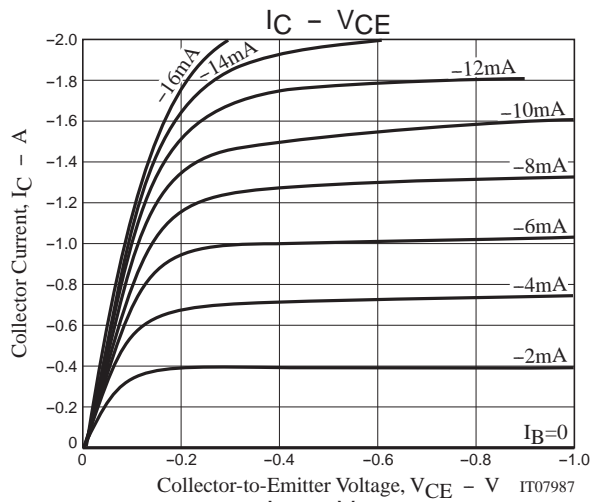
Switching Time Test Circuit

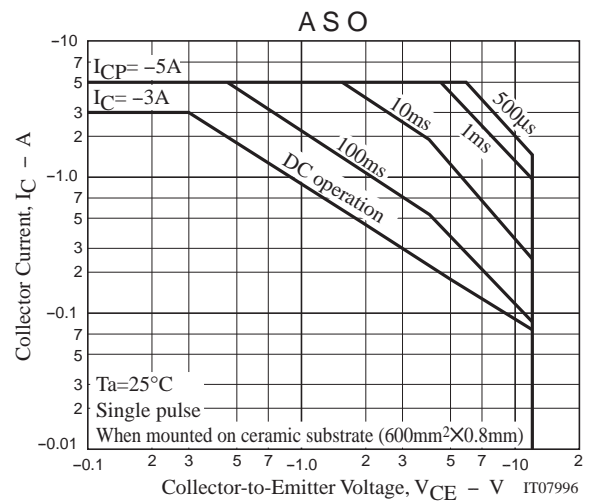
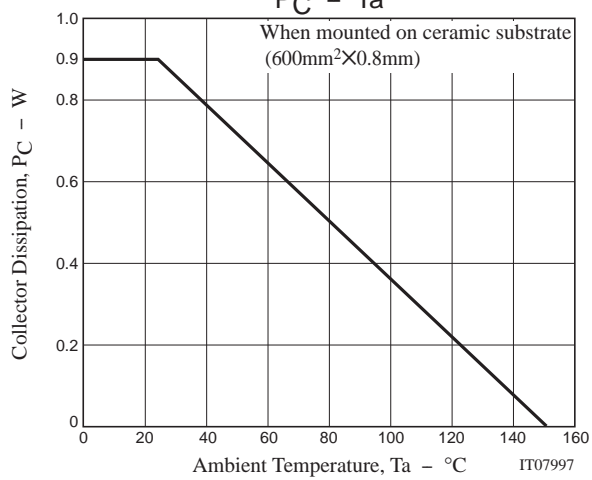
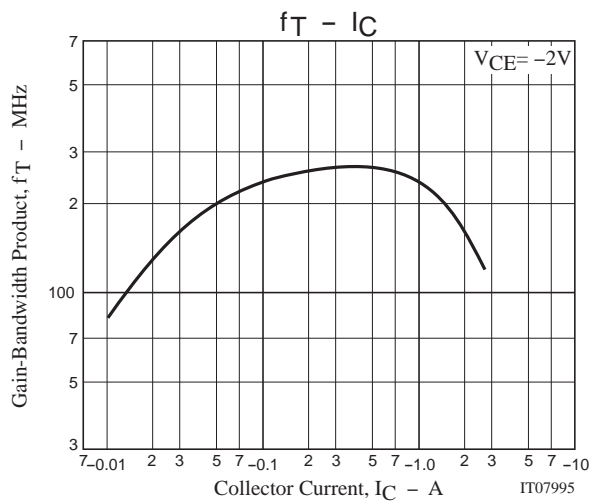


$I_C=20I_{B2}=-20I_{B1}=-1.5A$

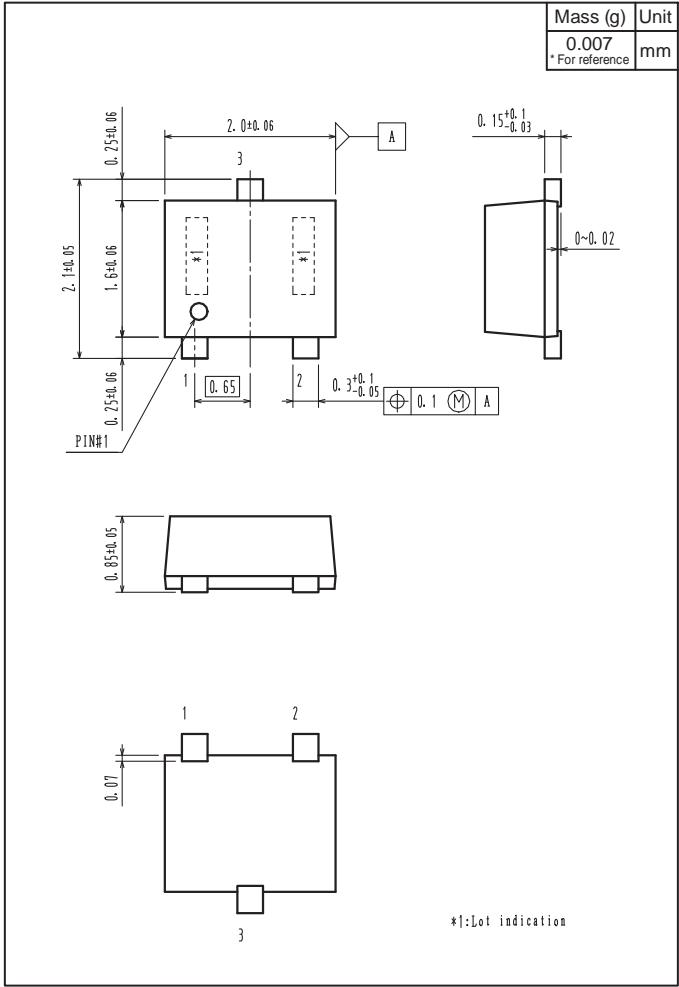
Ordering Information

Device	Package	Shipping	memo
MCH3106-TL-E	MCPH3	3,000pcs./reel	Pb Free

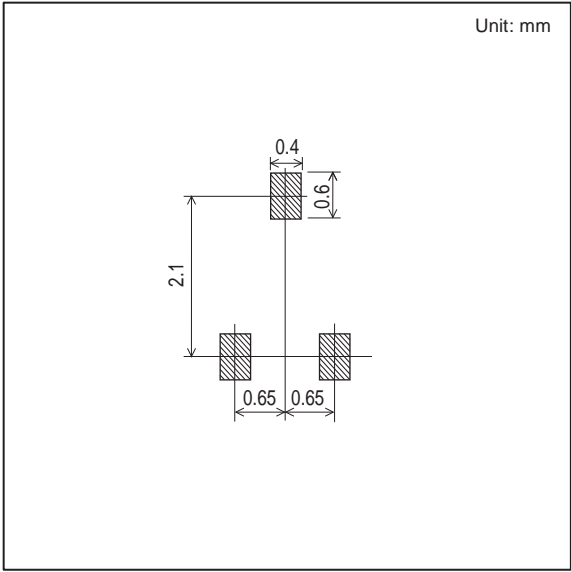




Outline Drawing
MCH3106-TL-E



Land Pattern Example



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