



SANYO Semiconductors

DATA SHEET

MCH6101 / MCH6201 — PNP / NPN Epitaxial Planar Silicon Transistors DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers, flash.

Features

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

Specifications () : MCH6101

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)15	V
Collector-to-Emitter Voltage	V _{CE0}		(-)15	V
Emitter-to-Base Voltage	V _{EB0}		(-)5	V
Collector Current	I _C		(-)1.5	A
Collector Current (Pulse)	I _{CP}		(-)3	A
Base Current	I _B		(-)300	mA
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² ×0.8mm)	1.0	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)12V, I _E =0			(-)0.1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} =(-)4V, I _C =0			(-)0.1	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)100mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} =(-)2V, I _C =(-)300mA		430		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(15)8		pF

Marking : MCH6101 : AA, MCH6201 : CA

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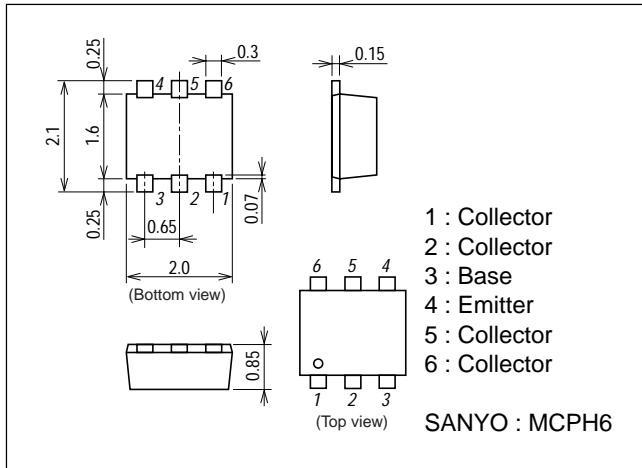
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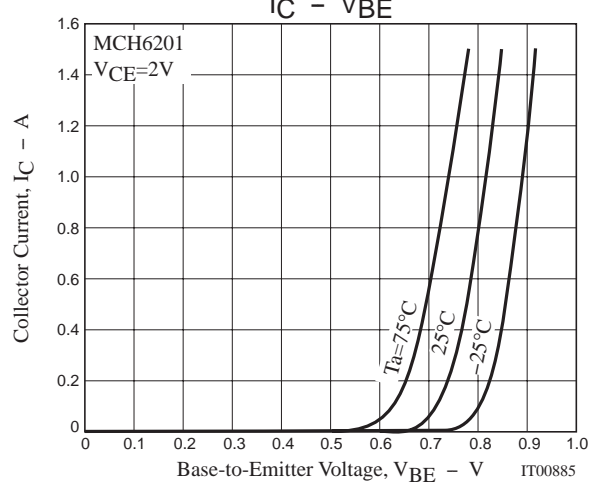
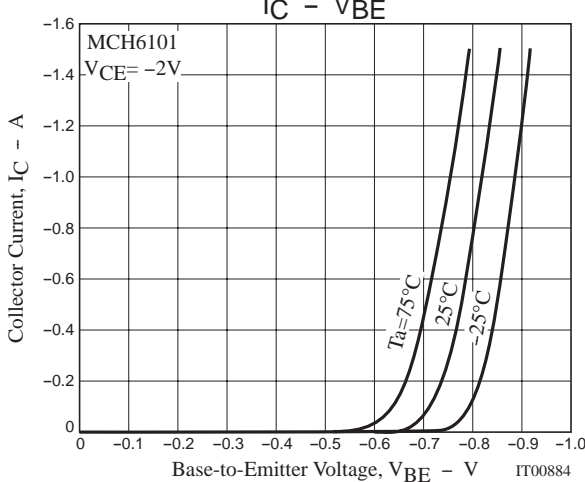
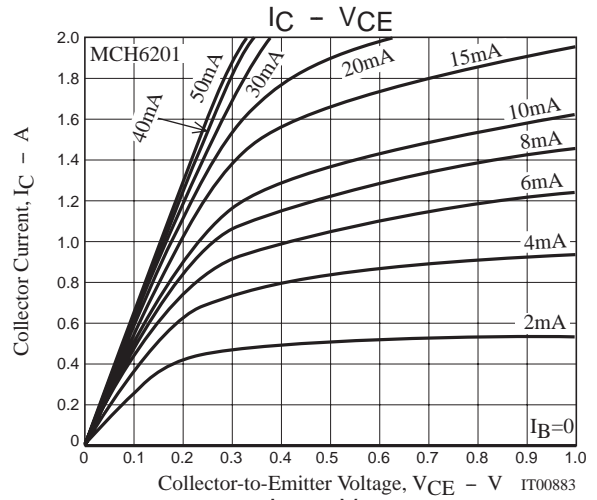
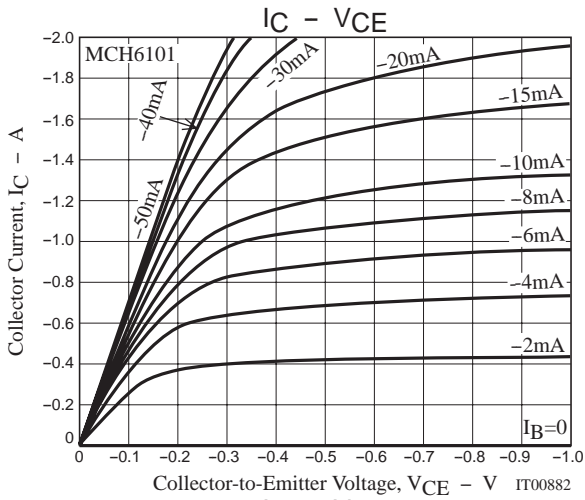
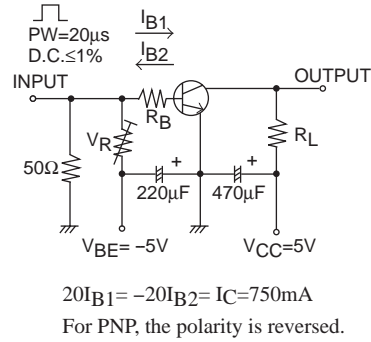
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)750\text{mA}$, $I_B=(-)15\text{mA}$		(-110)120	(-180)200	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)750\text{mA}$, $I_B=(-)15\text{mA}$		(-0.85)	(-1.2)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}$, $I_E=0$	(-15)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}$, $R_{BE}=\infty$	(-15)			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu\text{A}$, $I_C=0$	(-5)			V
Turn-ON Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}	See specified Test Circuit.		(90)160		ns
Fall Time	t_f	See specified Test Circuit.		(12)15		ns

Package Dimensions

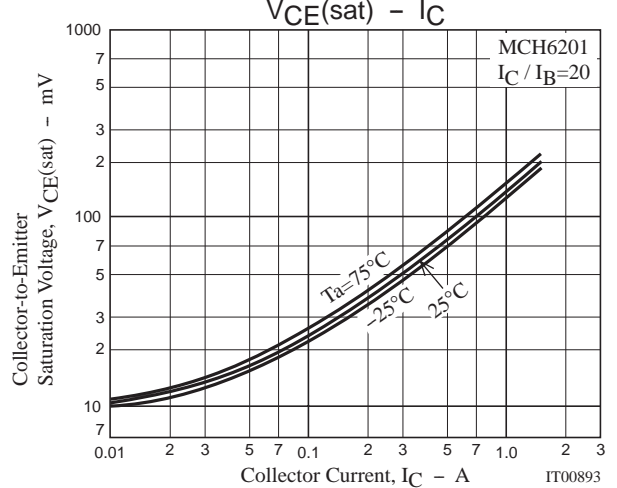
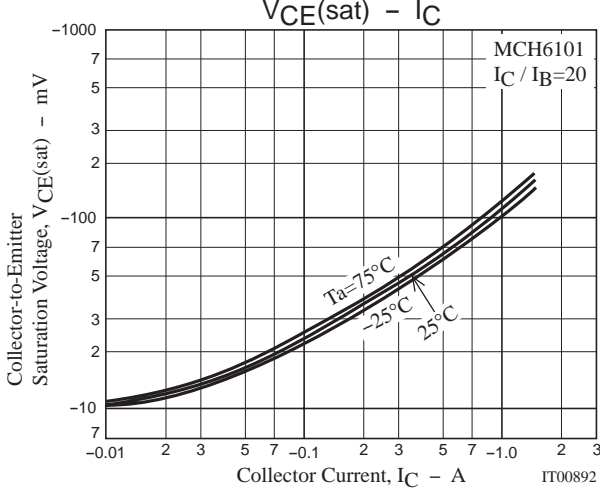
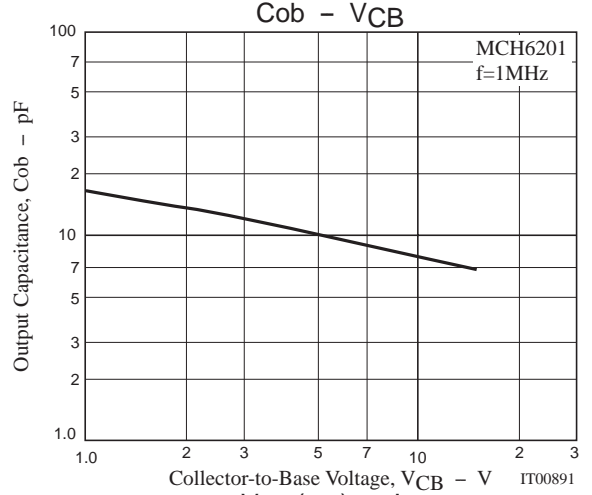
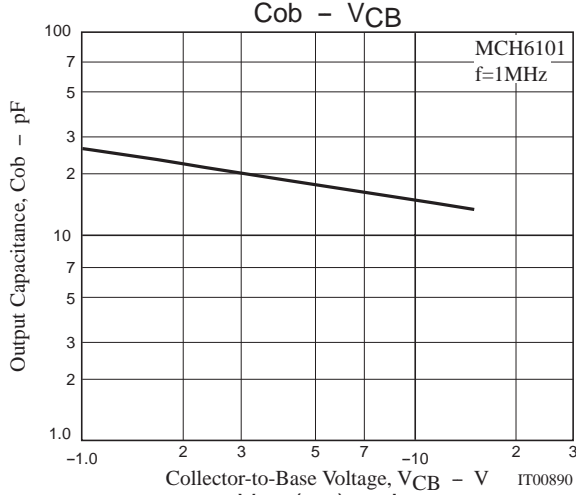
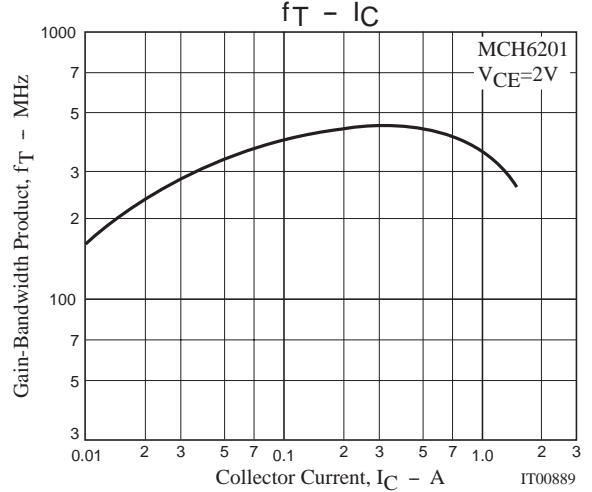
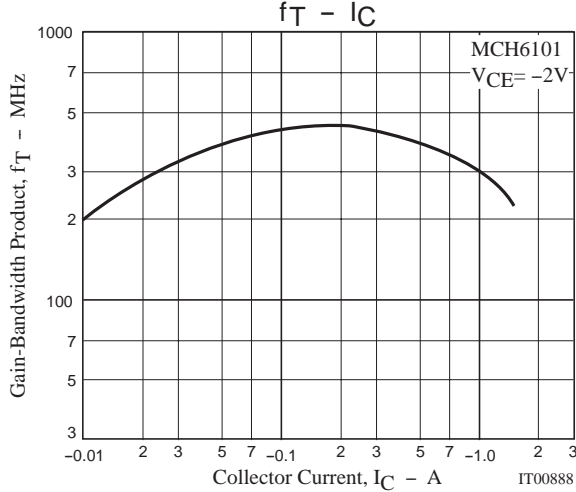
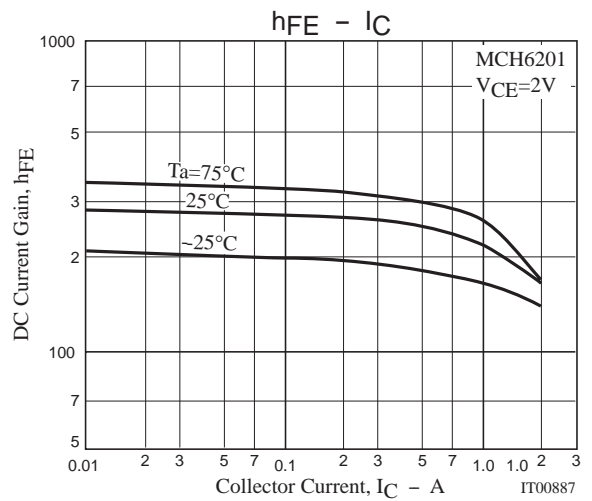
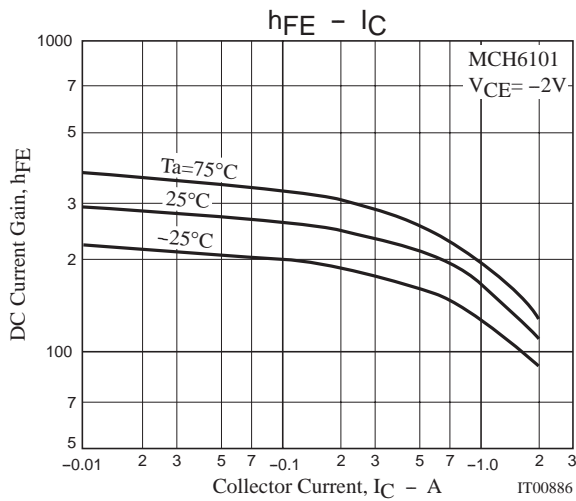
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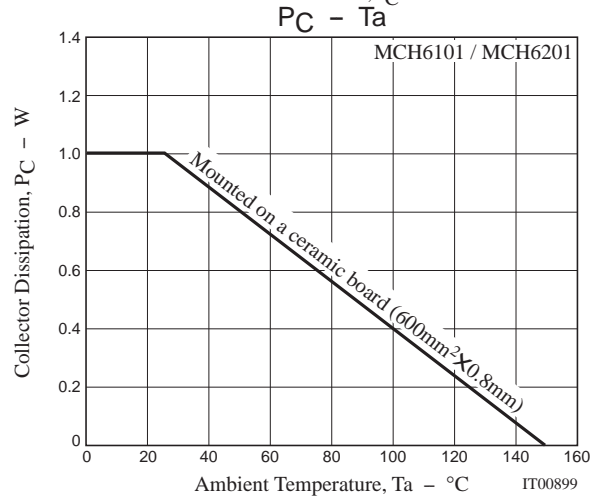
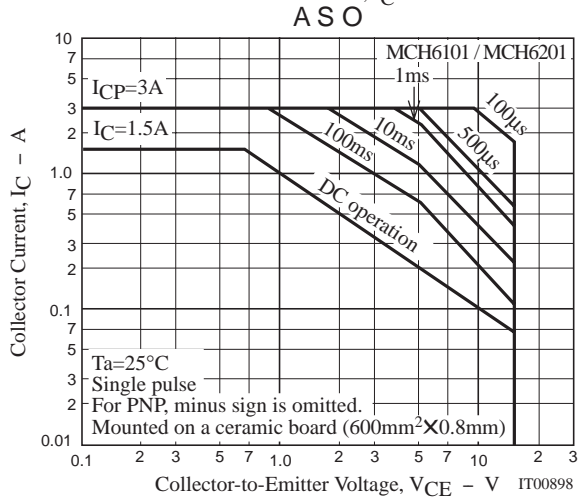
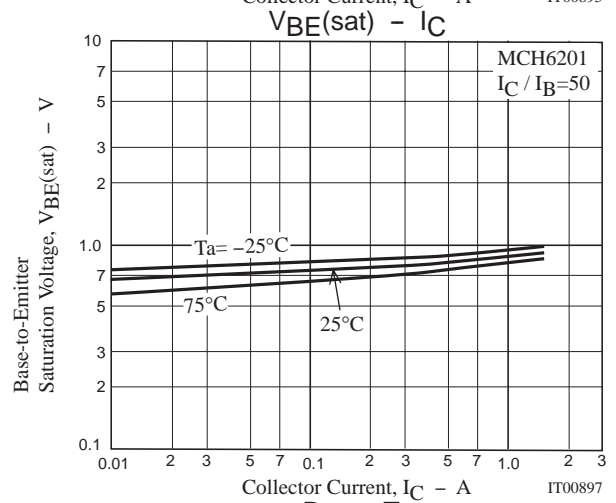
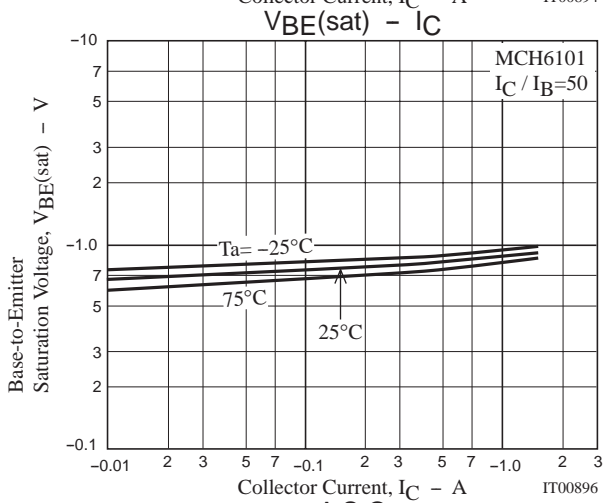
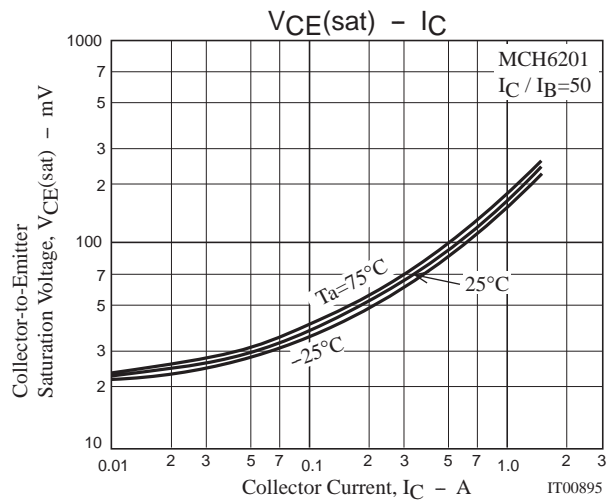
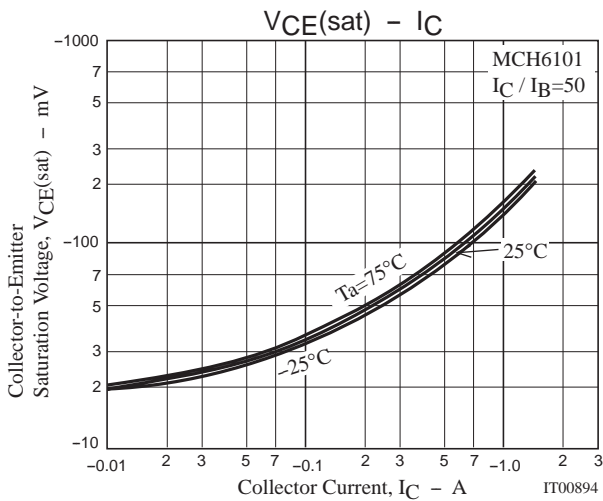
Switching Time Test Circuit



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