Ordering number:EN6073

NPN Silicon Epitaxial Planar Transistor

CPH3206

DC/DC Converter Applications

Applications

· Relay drivers, lamp drivers, motor drivers, strobes.

Features

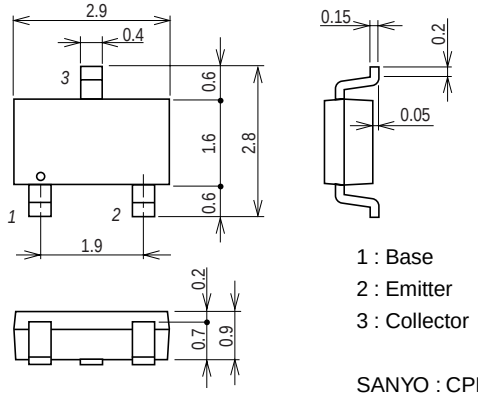
· Adoption of MBIT processes.
· High current capacitance.
· Low collector-to-emitter saturation voltage.
· High speed switching.
· Ultrasmall-sized package permitting CPH3206-applied sets to be made small and slim (0.9mm).
· High allowable power dissipation.

Package Dimensions

unit:mm

2150

[CPH3206]



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		15	V
Collector-to-Emitter Voltage	V_{CEO}		15	V
Emitter-to-Base Voltage	V_{EBO}		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	Mounted on a ceramic board (600mm²×0.8mm)	0.9	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=12V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=2V, I_C=500mA	200		560	
Gain-Bandwidth Product	f_T	V_{CE}=2V, I_C=500mA		380		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		23		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}1$	I_C=1.5A, I_B=30mA		100	150	mV
	$V_{CE(sat)}2$	I_C=3A, I_B=60mA		180	270	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=1.5A, I_B=30mA		0.85	1.2	V

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

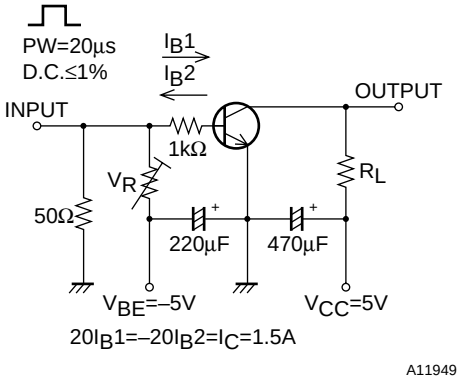
■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges,or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

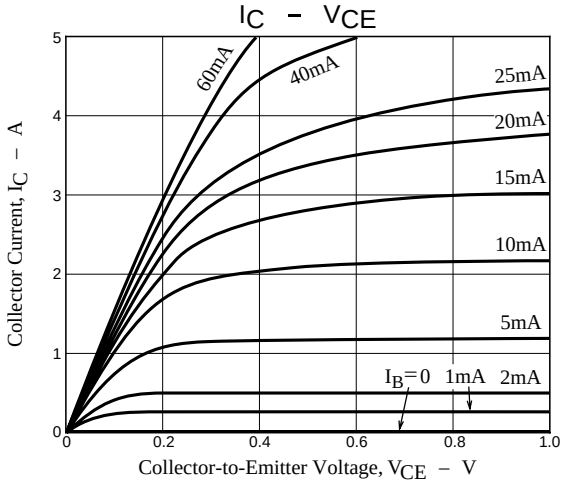
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

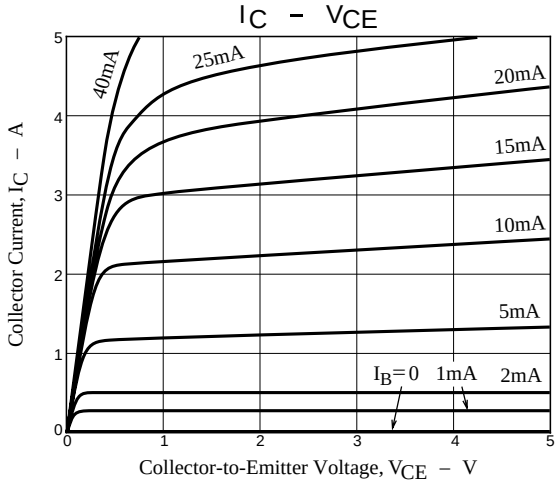
Continued from preceding page.

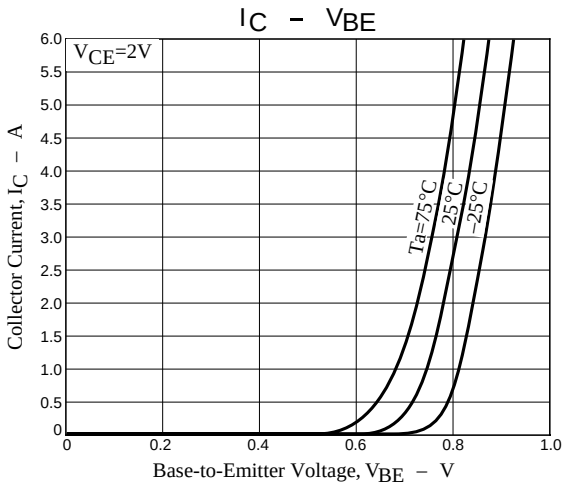
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}	See specified Test Circuit.		210		ns
Turn-OFF Time	t_f	See specified Test Circuit.		11		ns

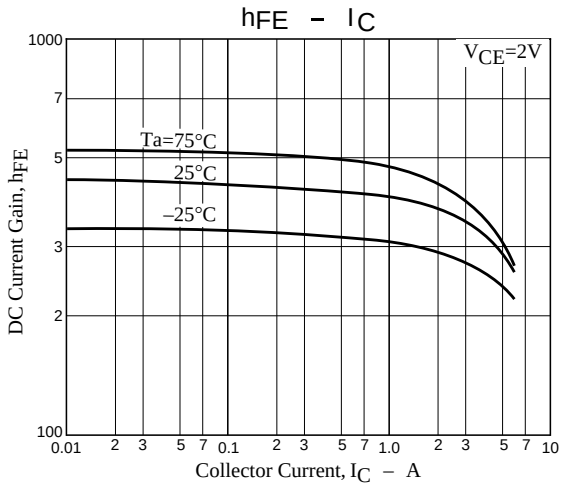
Switching Time Test Circuit



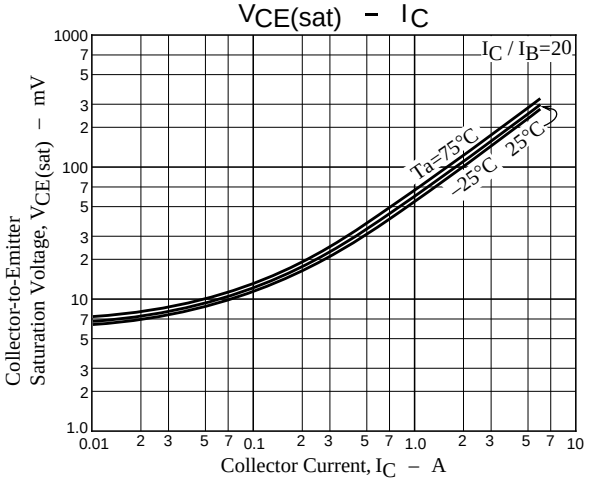




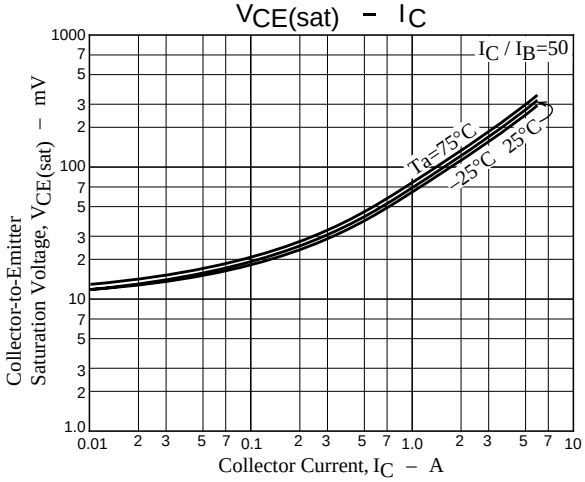




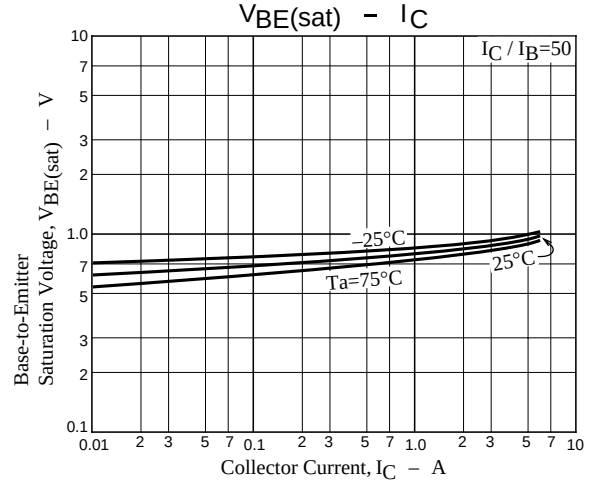
$V_{CE(sat)}$ – I_C



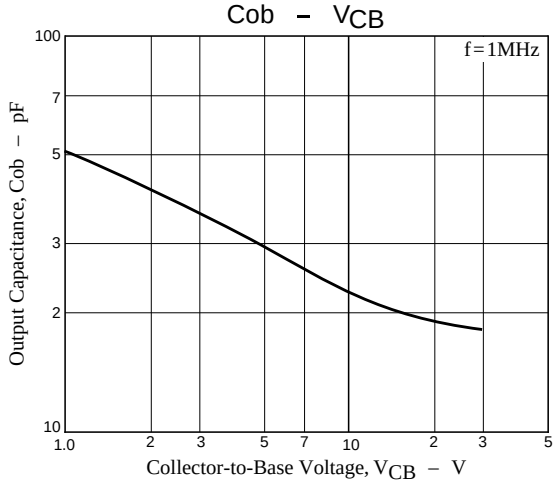
$V_{CE(sat)}$ – I_C



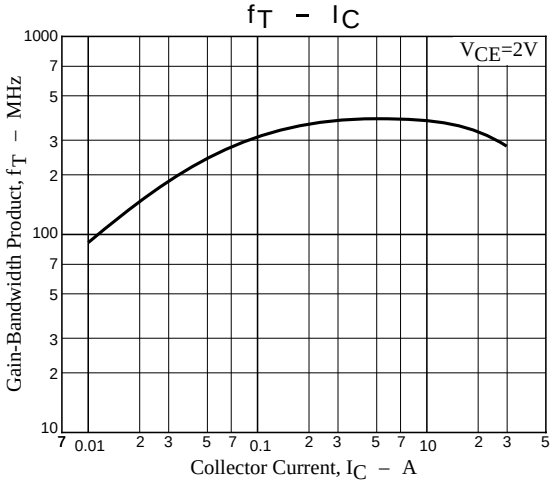
$V_{BE(sat)}$ – I_C



Cob – V_{CB}



f_T – I_C



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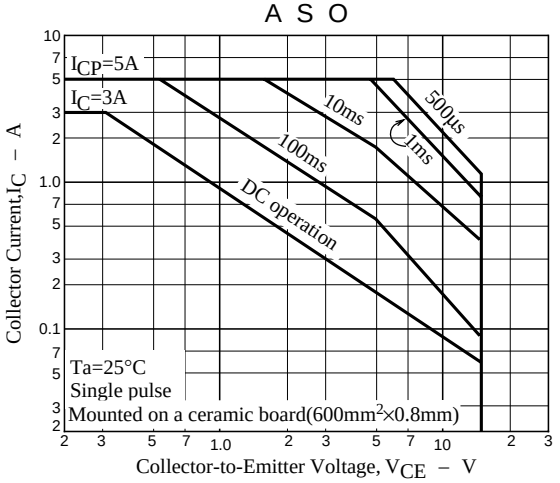
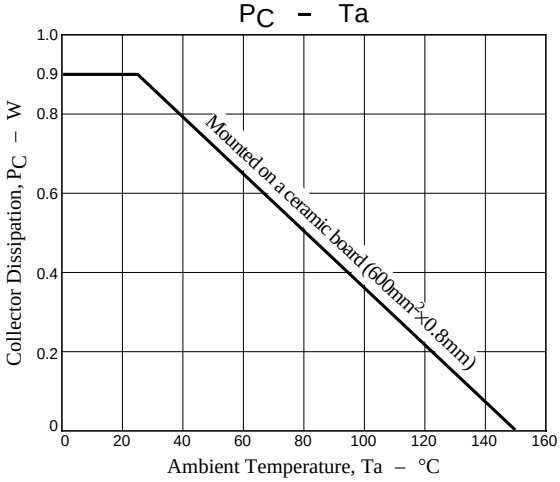


P_C – Ta



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