Ordering number : ENN7225

PNP Epitaxial Planar Silicon Transistor

CPH6122

DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers, strobes.

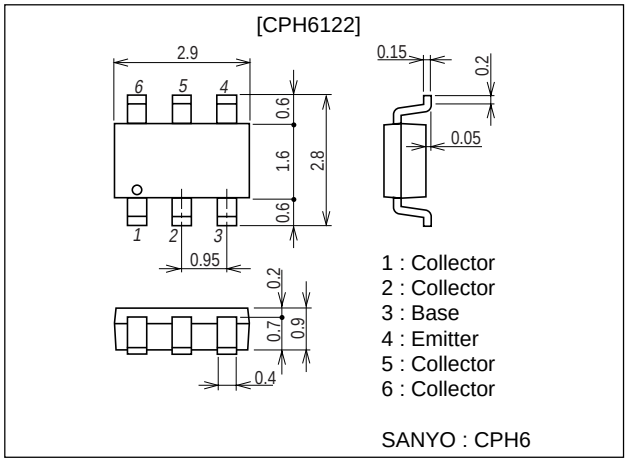
Features

- Adoption of MBIT process.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm).
- High allowable power dissipation.

Package Dimensions

unit : mm

2146A



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		−30	V
Collector-to-Emitter Voltage	V_{CEO}		−30	V
Emitter-to-Bass Voltage	V_{EBO}		−5	V
Collector Current	I_C		−3	A
Collector Current (Pulse)	I_{CP}		−5	A
Bass Current	I_B		−600	mA
Collector Dissipation	P_C	Mounted on ceramic board (600mm²×0.8mm)	1.3	W
Junction Temperature	T_J		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}=−30V, 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}=−10V, I_C=−500mA		400		MHz
Output Capacitance	Cob	V_{CB}=−10V, f=1MHz		25		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=−1.5A, IB=−30mA		−180	−270	mV
	V_{CE}(sat)	I_C=−1.5A, IB=−75mA		−120	−180	mV

Marking : AW

Continued on next page.

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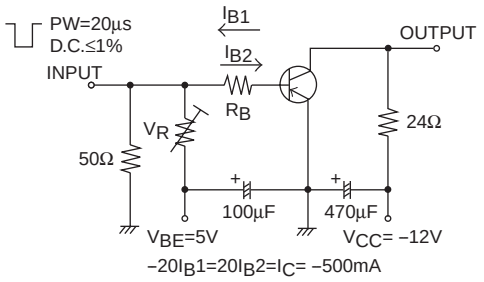
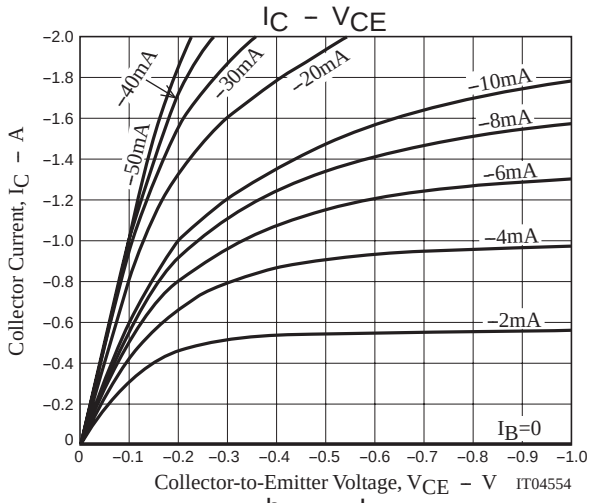
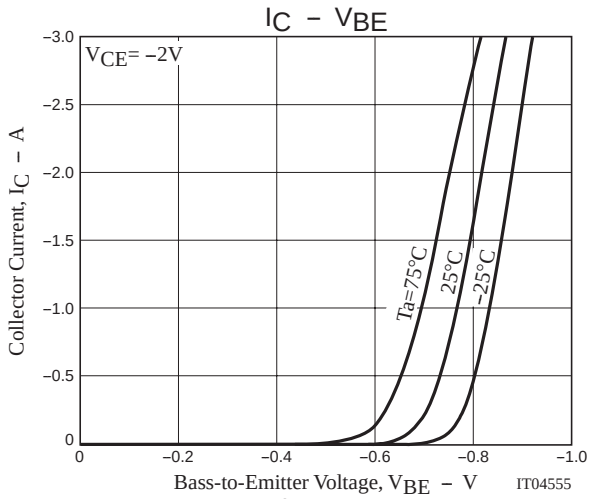
Continued from preceding page.

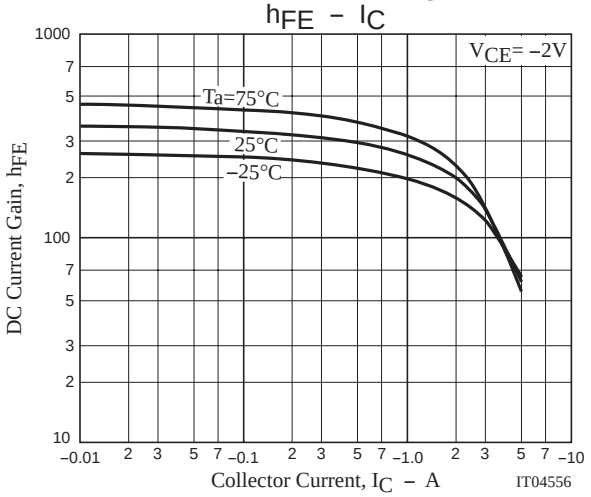
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Base-to-Emitter Saturation Voltage	$V_{BE}(sat)$	I_C=–1.5A, I_B=–30mA		–0.83	–1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0	–30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–30			V
Emitter-to-Bass Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0	–5			V
Turn-On Time	t_{on}	See specified Test Circuit.		50		ns
Storage Time	t_{stg}	See specified Test Circuit.		270		ns
Fall Time	t_f	See specified Test Circuit.		27		ns

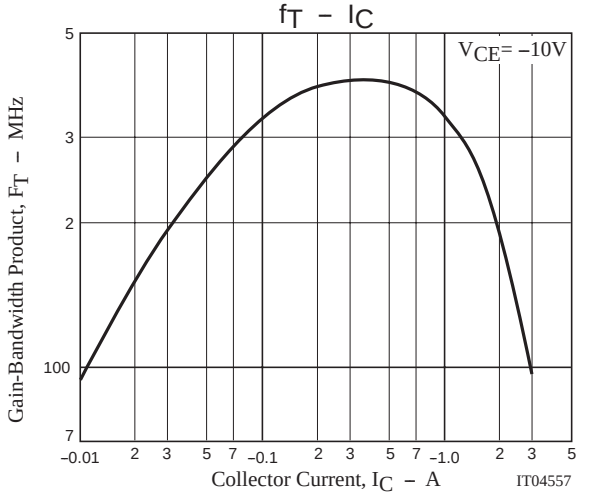
Switching Time Test Circuit



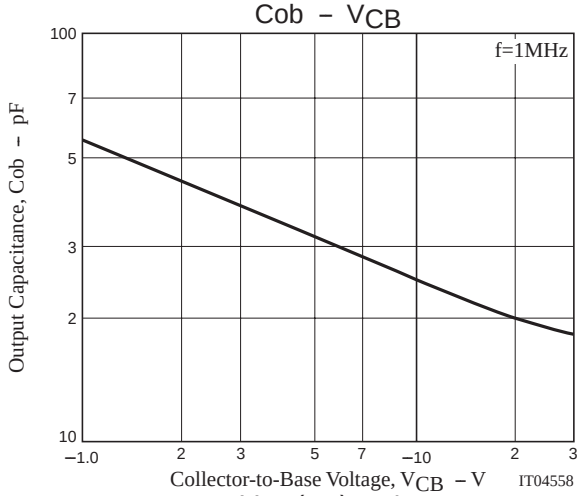




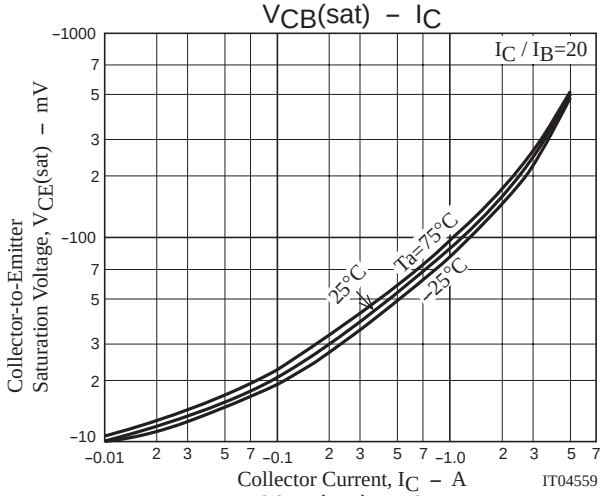




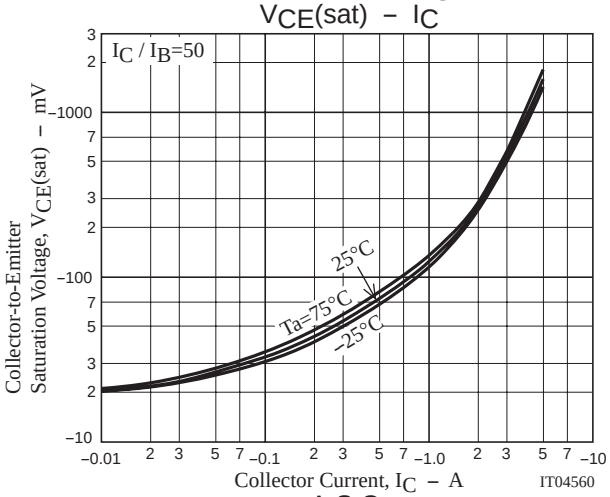
Cob – V_{CB}



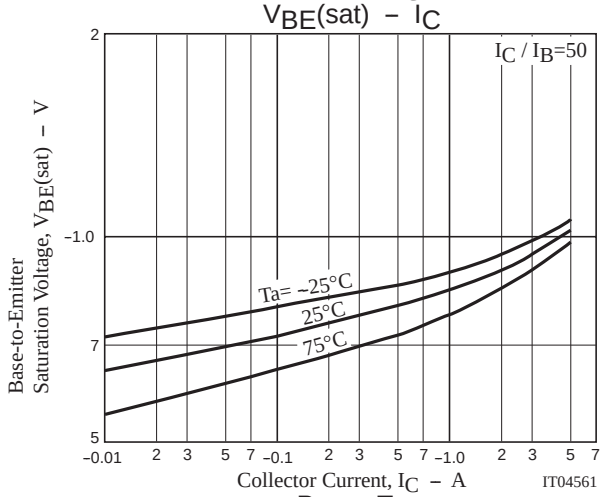
V_{CB}(sat) – I_C



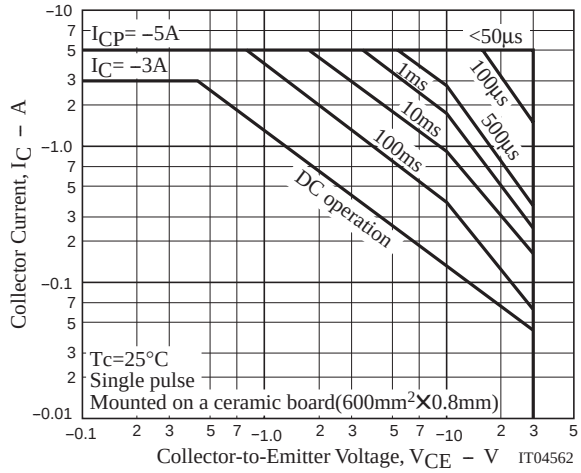
V_{CE}(sat) – I_C



V_{BE}(sat) – I_C



A S O



P_C – Ta