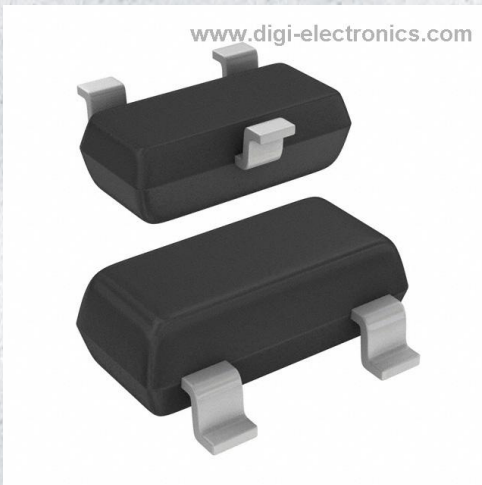


# CPH3144-TL-E Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	CPH3144-TL-E-DG
Manufacturer	<a href="#">onsemi</a>
Manufacturer Product Number	CPH3144-TL-E
Description	TRANS PNP 30V 2A 3CPH
Detailed Description	Bipolar (BJT) Transistor PNP 30 V 2 A 440MHz 900 m W Surface Mount 3-CPH



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

CPH3144-TL-E

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

30 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

900 mW

Operating Temperature:

150°C (TJ)

Package / Case:

SC-96

Base Product Number:

CPH3144

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

2 A

Vce Saturation (Max) @ Ib, Ic:

260mV @ 75mA, 1.5A

DC Current Gain (hFE) (Min) @ Ic, Vce:

200 @ 100mA, 2V

Frequency - Transition:

440MHz

Mounting Type:

Surface Mount

Supplier Device Package:

3-CPH

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

Ordering number : ENN8165



SANYO Semiconductors

## DATA SHEET

# CPH3144 / CPH3244

PNP / NPN Epitaxial Planar Silicon Transistors

## DC / DC Converter Applications

## Applications

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

## 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.

## Specifications ( ) : CPH3144

### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-30)40	V
Collector-to-Emitter Voltage	V <sub>CE0</sub>		(-30)	V
Emitter-to-Base Voltage	V <sub>EB0</sub>		(-5)	V
Collector Current	I <sub>C</sub>		(-2)	A
Collector Current (Pulse)	I <sub>CP</sub>		(-5)	A
Base Current	I <sub>B</sub>		(-400)	mA
Collector Dissipation	P <sub>C</sub>	Mounted on a ceramic board (600mm <sup>2</sup> ×0.8mm)	0.9	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

### Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)30V, I <sub>E</sub> =0			(-)0.1	μA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0			(-)0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)100mA	200		560	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =(-)10V, I <sub>C</sub> =(-)300mA		(440)400		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)10V, f=1MHz		(17)12		pF

Marking : CPH3144 : BD, CPH3244 : DP

Continued on next page.

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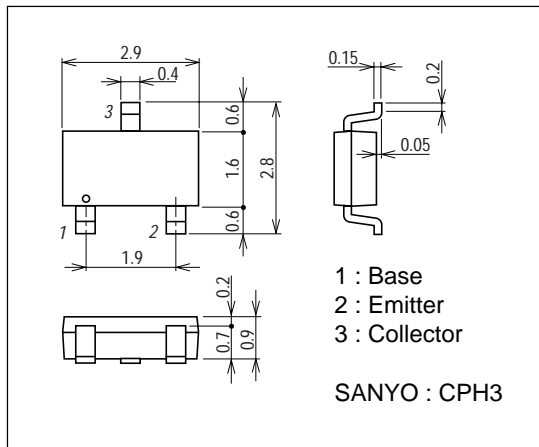
# CPH3144 / CPH3244

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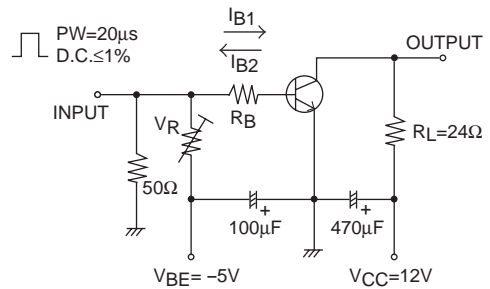
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)1.5A, I_B=(-)75mA$		(-170)160	(-260)240	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)1.5A, I_B=(-)75mA$		(-0.94)	(-1.2)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-30)40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-)-5			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		(45)40		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		(200)350		ns
Fall Time	$t_f$	See specified Test Circuit.		(23)30		ns

## Package Dimensions

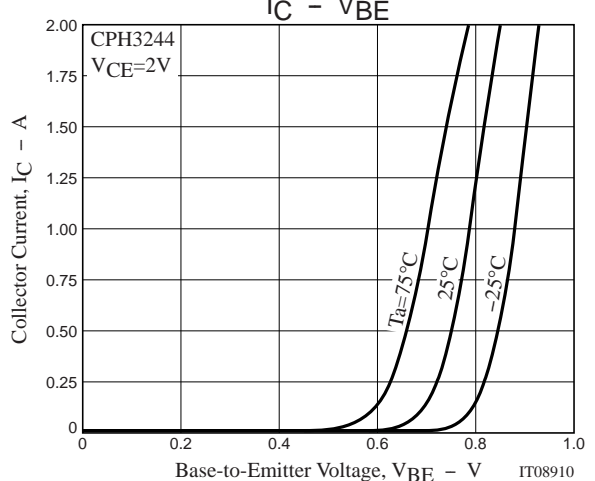
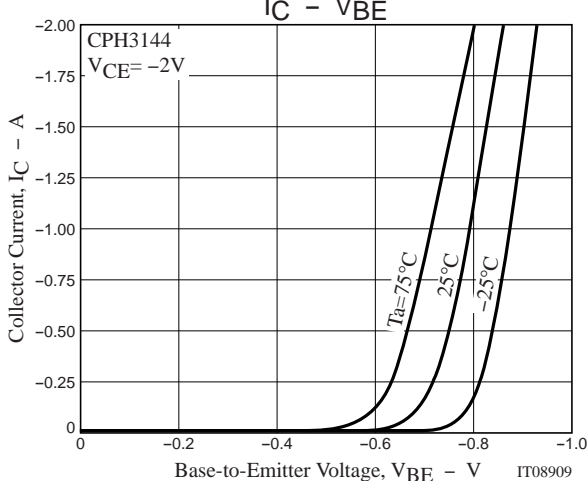
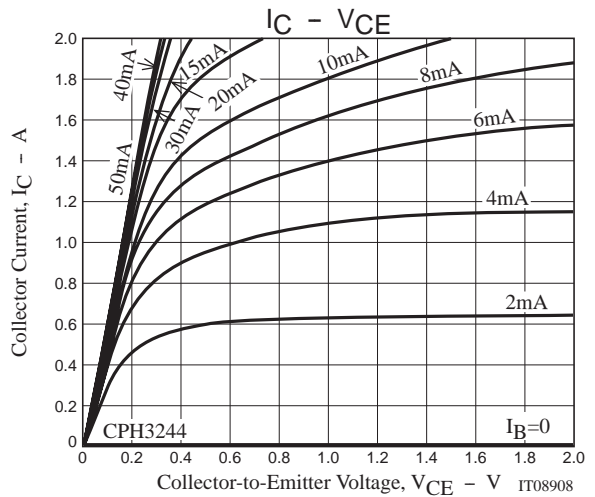
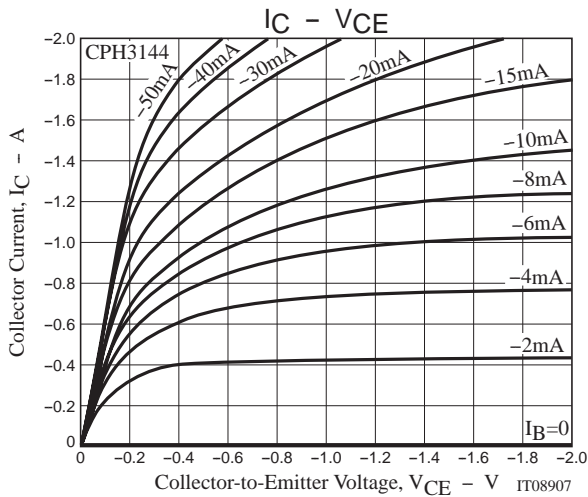
unit : mm  
2150A



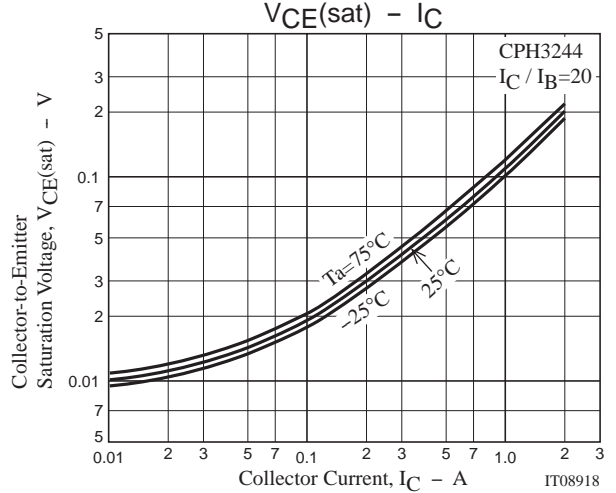
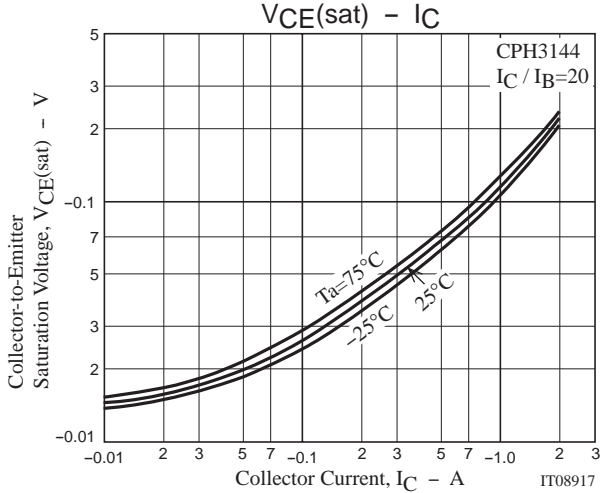
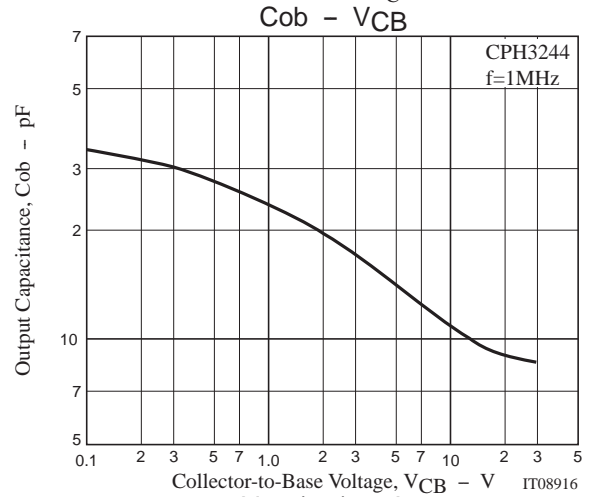
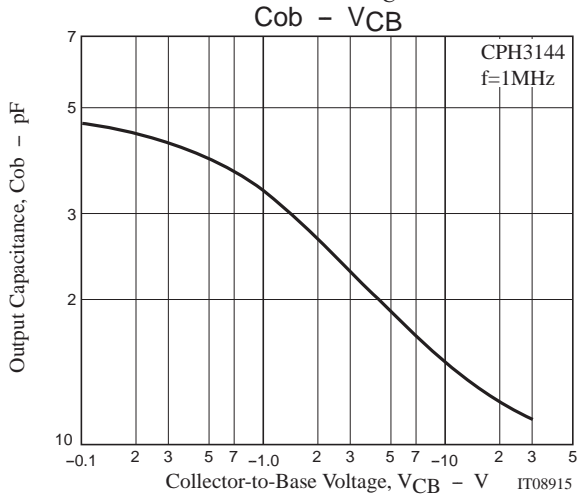
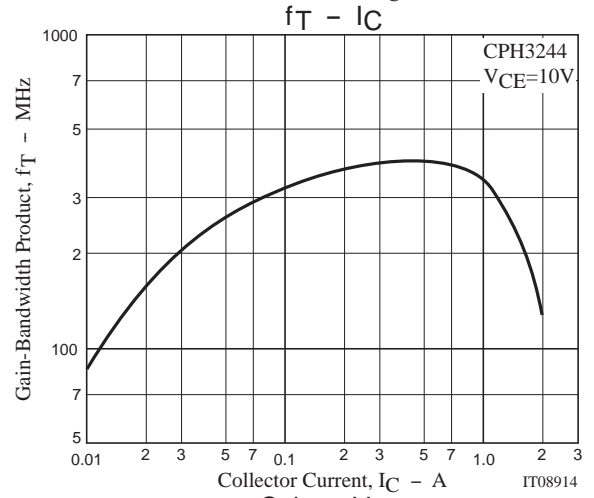
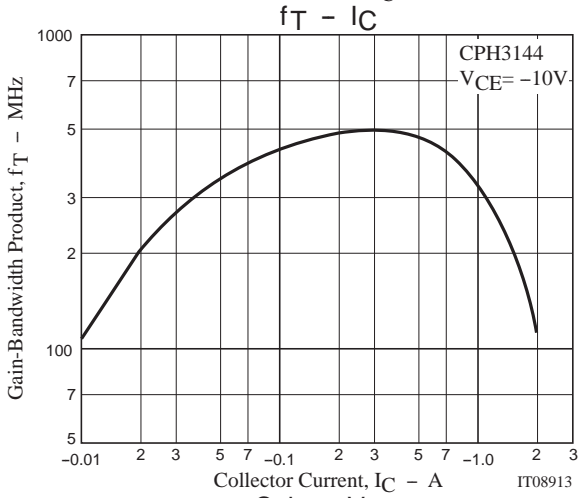
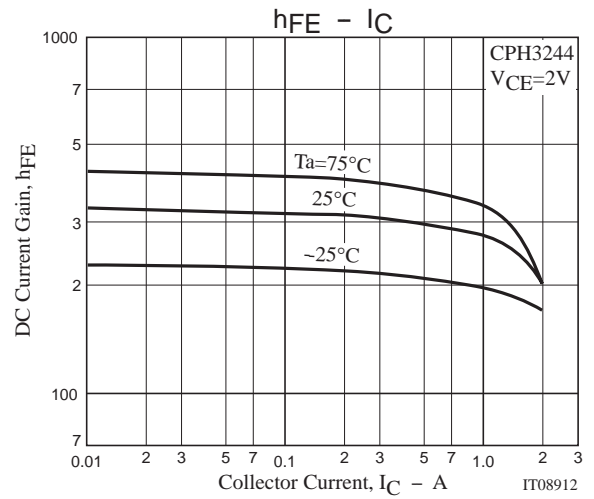
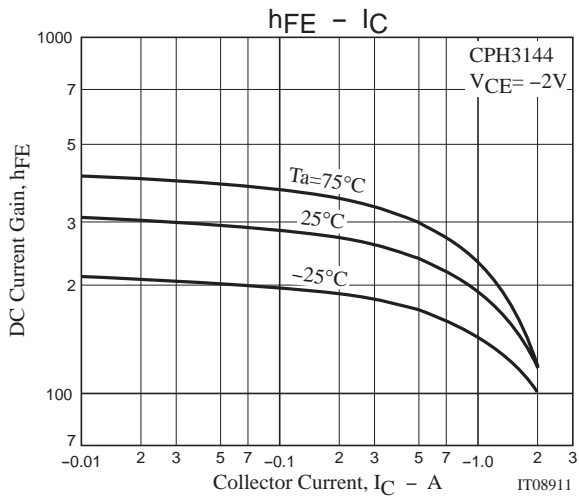
## Switching Time Test Circuit



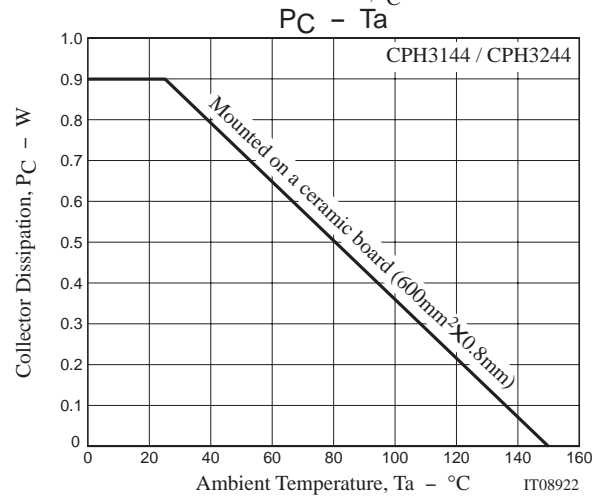
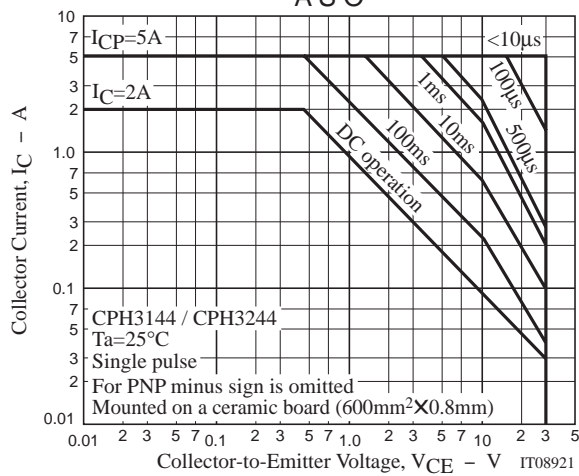
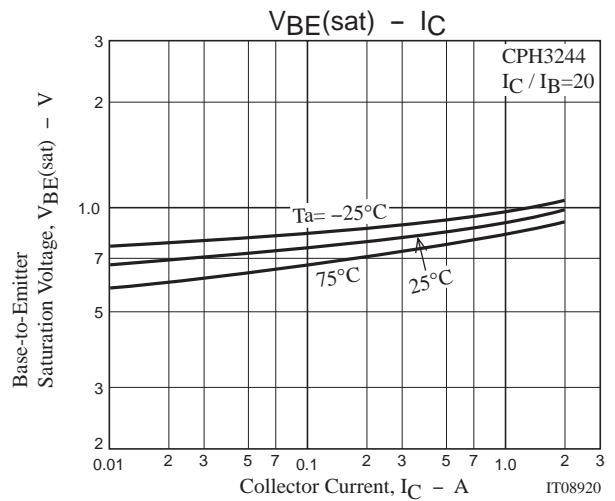
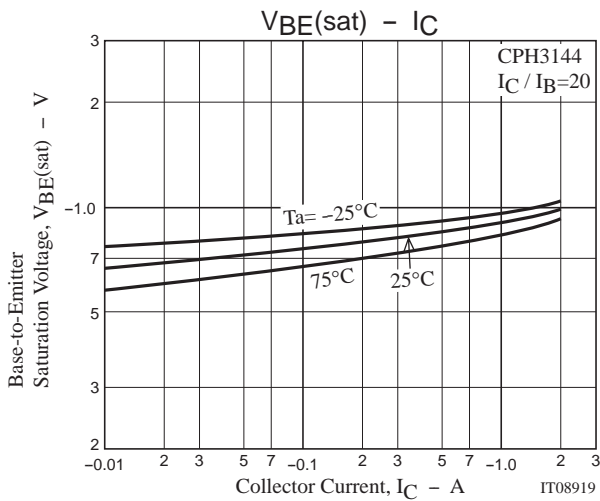
$I_C=20I_{B1}=-20I_{B2}=500mA$   
For PNP, the polarity is reversed.



**CPH3144 / CPH3244**



**CPH3144 / CPH3244**



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