



# CPH6102

## Bipolar Transistor -50V, -1A, Low VCE(sat) PNP Single CPH6

ON Semiconductor®

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### Applications

- DC-DC converter, relay drivers, lamp drivers, motor drivers, strobes

### Features

- Adoption of FBET, MBIT processes
- Large current capacity
- Low collector to emitter saturation voltage
- High-speed switching
- Ultrasmall package permitting applied sets to be made small and slim (0.9mm)
- High allowable power dissipation

### Specifications

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

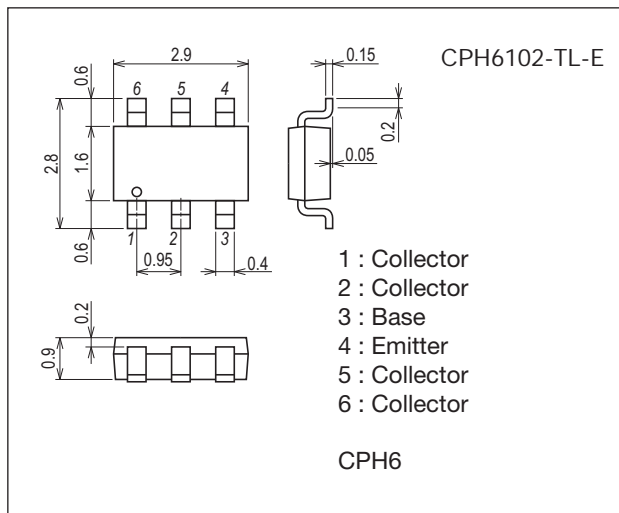
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V <sub>CB0</sub>		-60	V
Collector to Emitter Voltage	V <sub>CEO</sub>		-50	V
Emitter to Base Voltage	V <sub>EB0</sub>		-5	V
Collector Current	I <sub>C</sub>		-1.0	A
Collector Current (Pulse)	I <sub>CP</sub>		-2	A
Collector Dissipation	P <sub>C</sub>	When mounted on ceramic substrate (600mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	T <sub>j</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

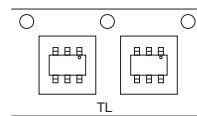
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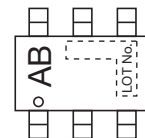
### Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

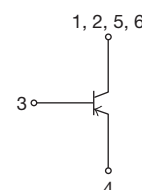
### Packing Type: TL



### Marking



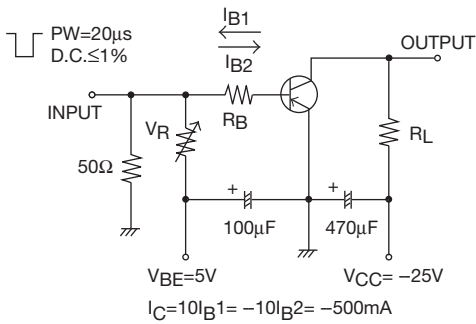
### Electrical Connection



Electrical Characteristics at Ta=25°C

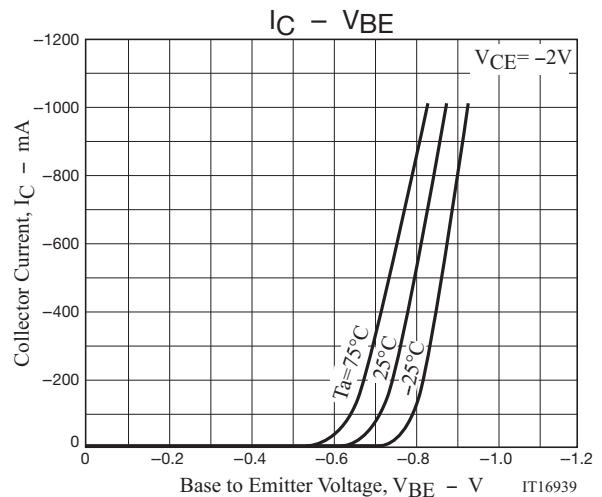
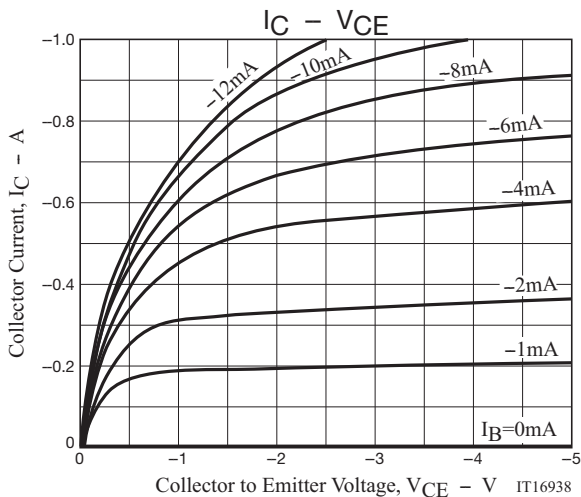
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> = -50V, I <sub>E</sub> =0A			-100	nA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> = -4V, I <sub>C</sub> =0A			-100	nA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -100mA	200		560	
	h <sub>FE2</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -1A	30			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -50mA		150		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f=1MHz		12		pF
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA		-180	-500	mV
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA		-0.9	-1.2	V
Collector to Base Breakdown Voltage	V(BR)CBO	I <sub>C</sub> = -10μA, I <sub>E</sub> =0A	-60			V
Collector to Emitter Breakdown Voltage	V(BR)CEO	I <sub>C</sub> = -1mA, R <sub>BE</sub> =∞	-50			V
Emitter to Base Breakdown Voltage	V(BR)EBO	I <sub>E</sub> = -10μA, I <sub>C</sub> =0A	-5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		40		ns
Storage Time	t <sub>stg</sub>			300		ns
Fall Time	t <sub>f</sub>			30		ns

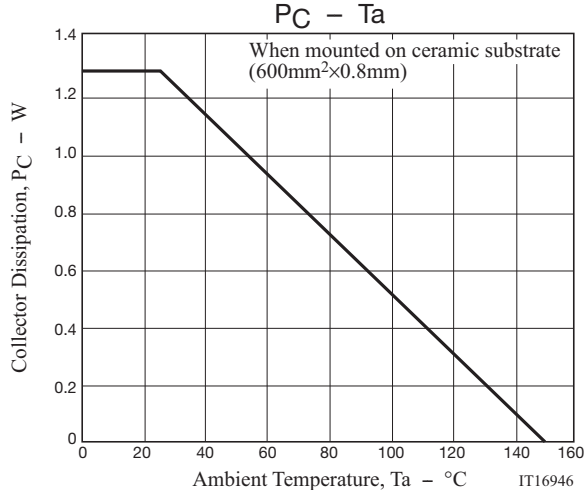
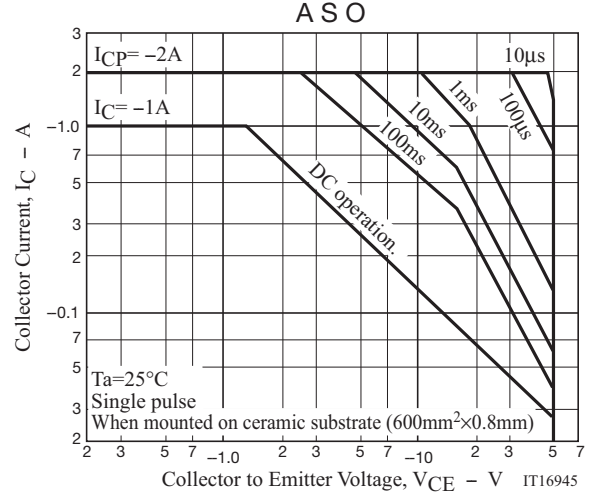
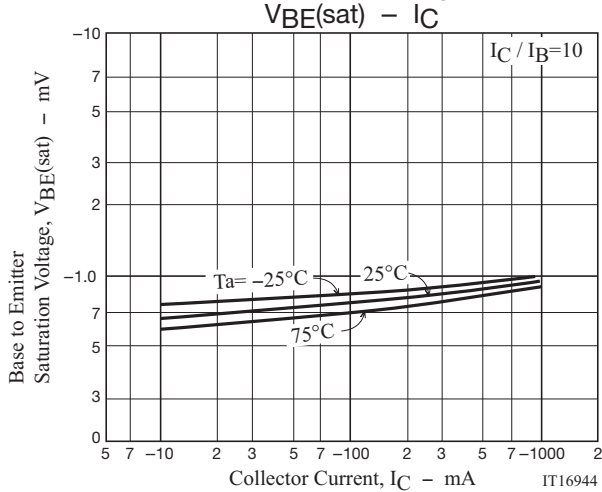
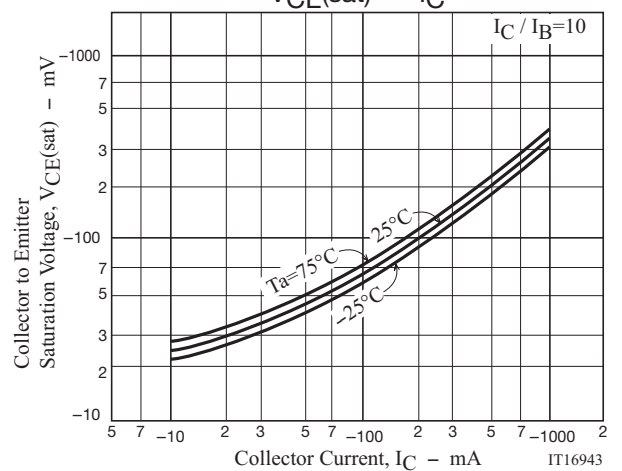
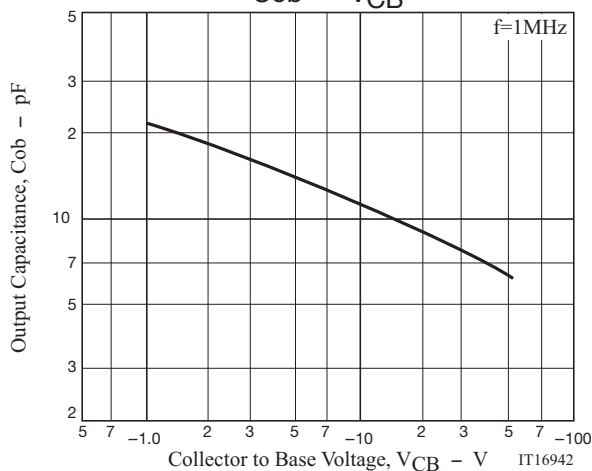
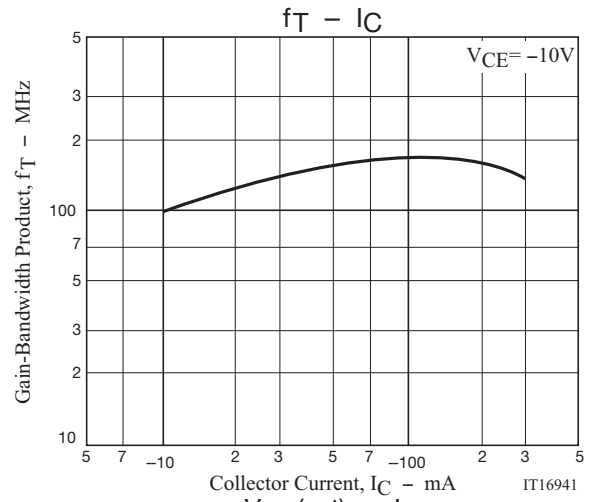
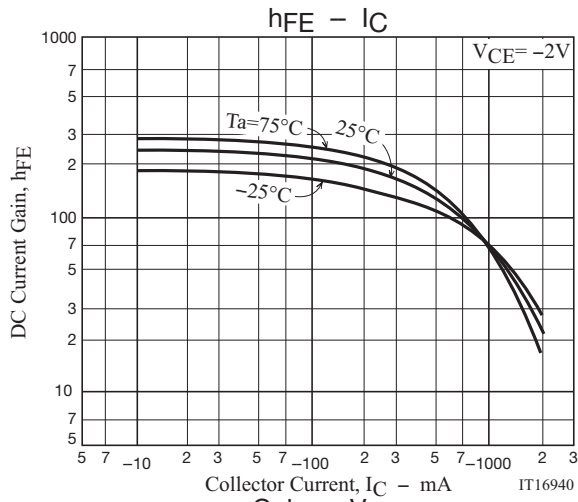
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
CPH6102-TL-E	CPH6	3,000pcs./reel	Pb Free

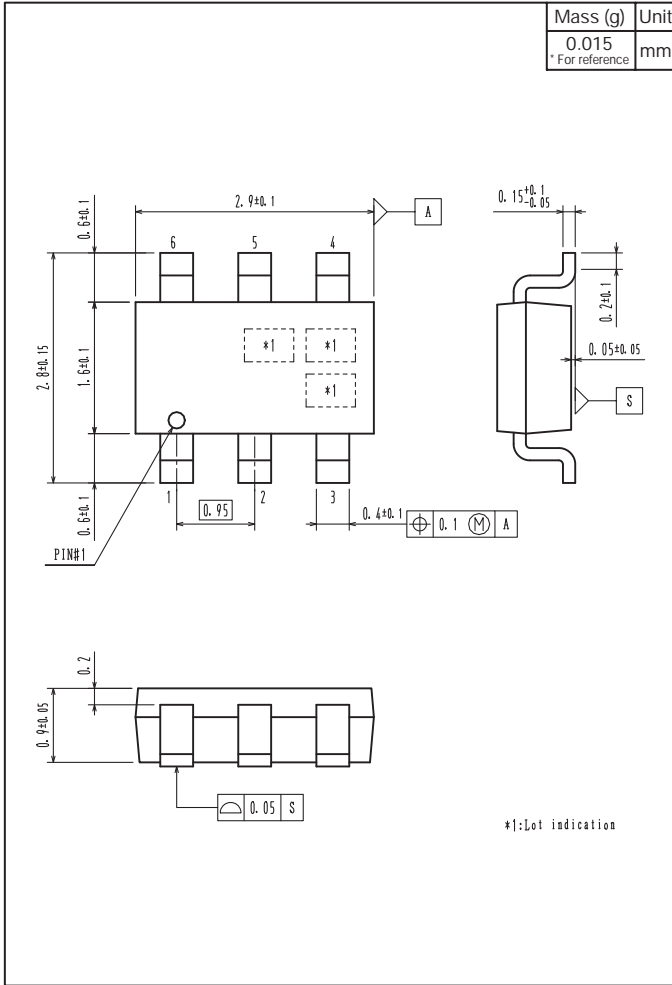




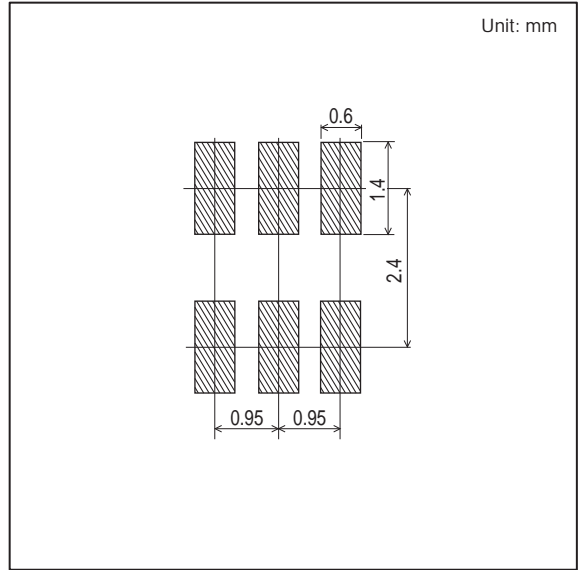
# CPH6102

## Outline Drawing

CPH6102-TL-E



## Land Pattern Example



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