



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

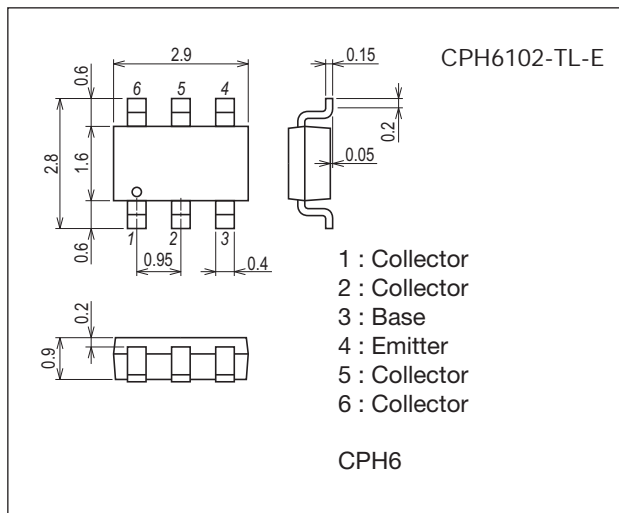
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V _{CB0}		-60	V
Collector to Emitter Voltage	V _{CEO}		-50	V
Emitter to Base Voltage	V _{EB0}		-5	V
Collector Current	I _C		-1.0	A
Collector Current (Pulse)	I _{CP}		-2	A
Collector Dissipation	P _C	When mounted on ceramic substrate (600mm ² ×0.8mm)	1.3	W
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-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)

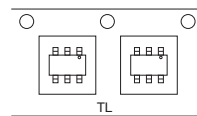
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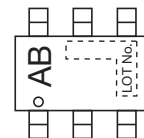
Product & Package Information

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

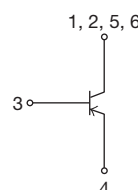
Packing Type: TL



Marking



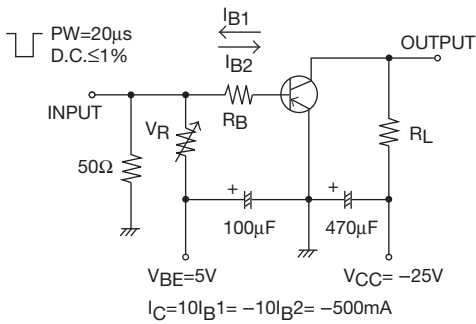
Electrical Connection



Electrical Characteristics at Ta=25°C

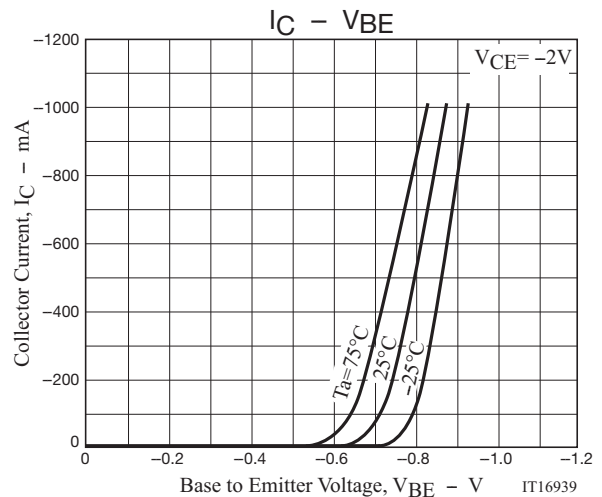
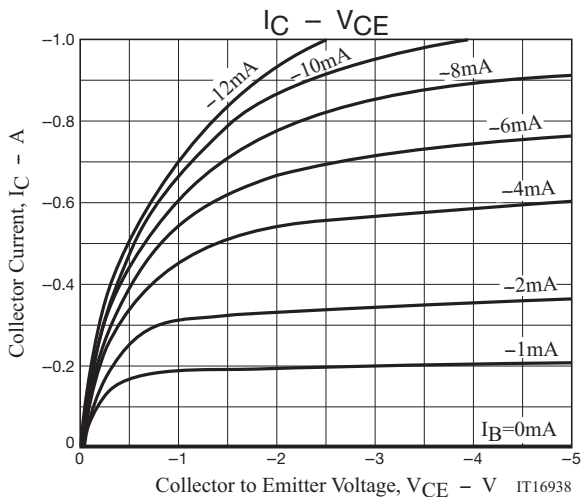
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -50V, I_E = 0A$			-100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0A$			-100	nA
DC Current Gain	h_{FE1}	$V_{CE} = -2V, I_C = -100mA$	200		560	
	h_{FE2}	$V_{CE} = -2V, I_C = -1A$	30			
Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -50mA$		150		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		12		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$		-180	-500	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -500mA, I_B = -50mA$		-0.9	-1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0A$	-60			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0A$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}			300		ns
Fall Time	t_f			30		ns

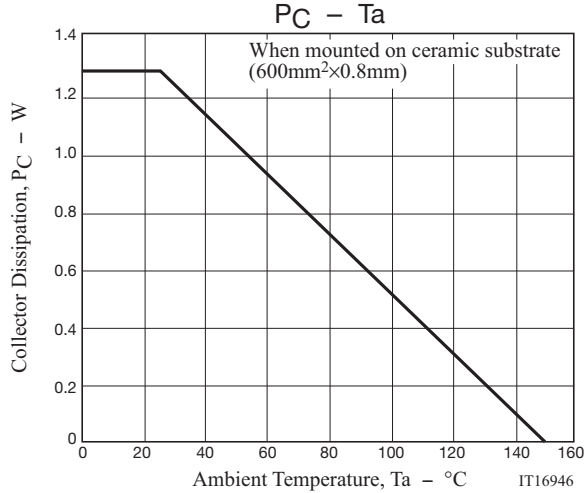
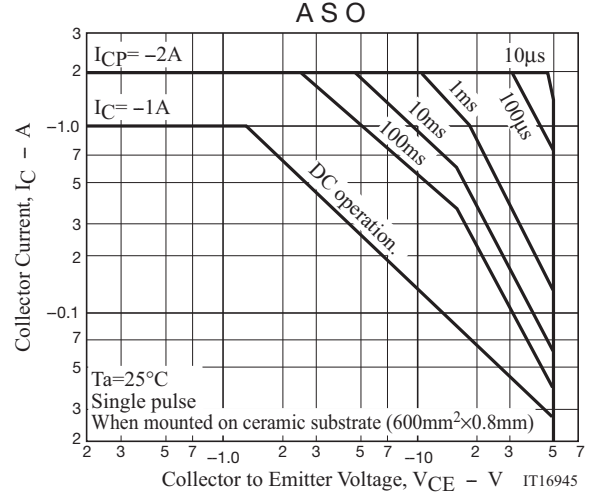
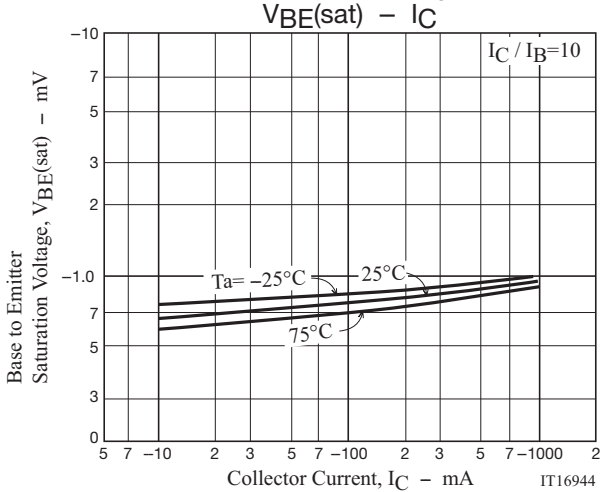
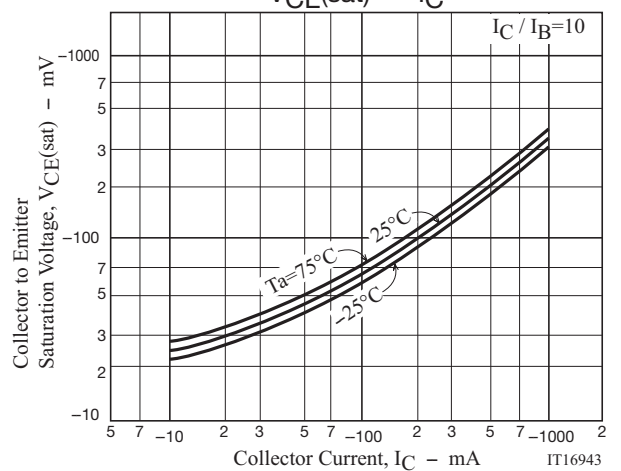
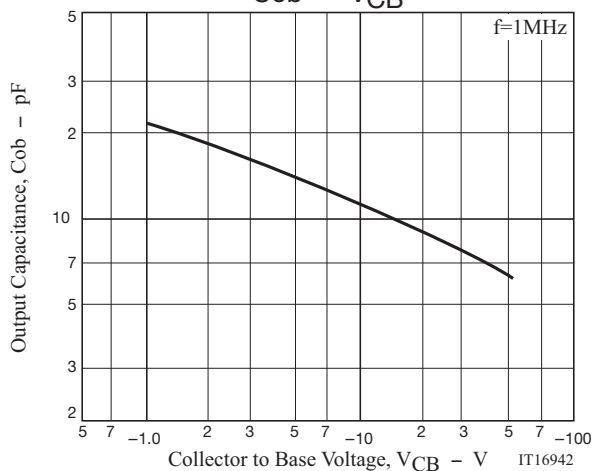
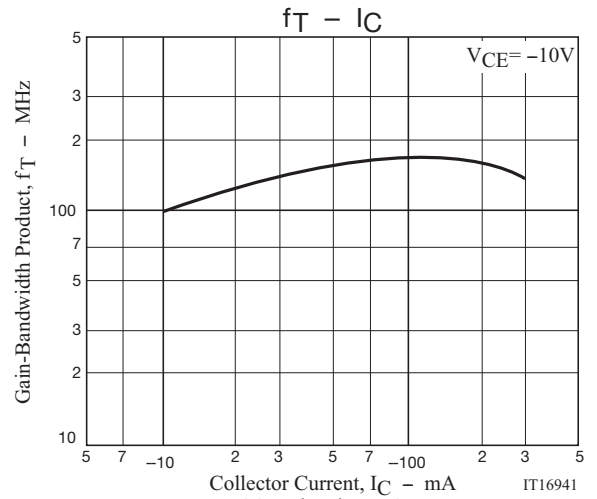
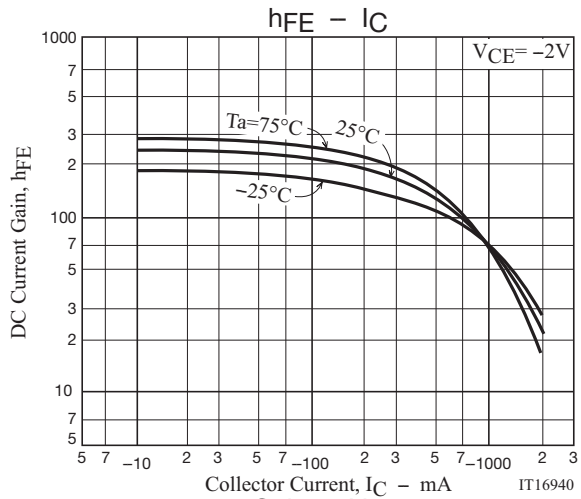
Switching Time Test Circuit



Ordering Information

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

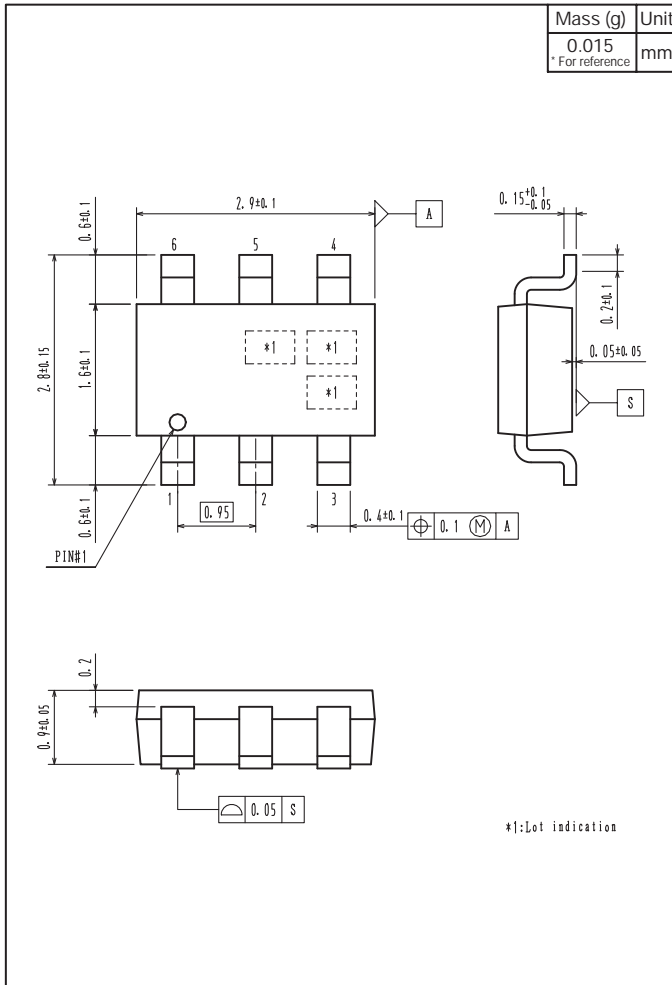




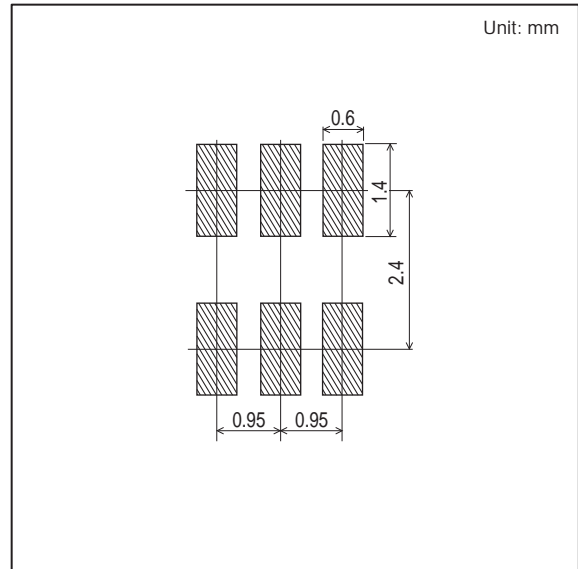
CPH6102

Outline Drawing

CPH6102-TL-E



Land Pattern Example



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