

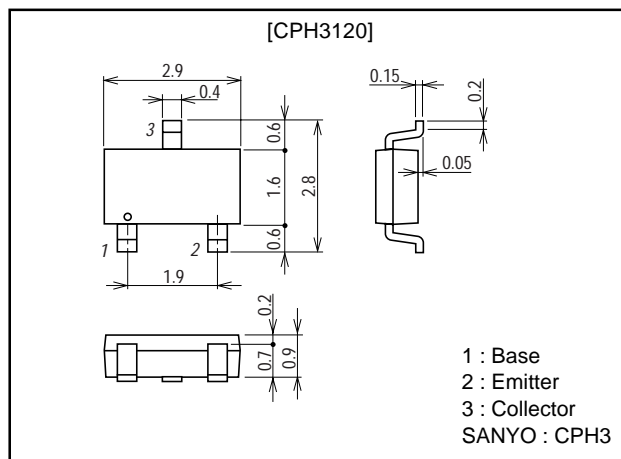
**CPH3120****Compact Motor Driver Applications****Features**

- Small saturation voltage.
- Contains a diode between collector and emitter.
- Contains bias resistance between base and emitter.
- Large current capacity.
- Compact package facilitates implementation of high-density, small-sized hybrid ICs.

**Package Dimensions**

unit:mm

2150A

**Specifications****Absolute Maximum Ratings** at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		-20	V
Collector-to-Emitter Voltage	$V_{CE0}$		-15	V
Emitter-to-Base Voltage	$V_{EB0}$		-5	V
Collector Current	$I_C$		-0.8	A
Collector Current (Pulse)	$I_{CP}$		-2	A
Collector Dissipation	$P_C$	Mounted on a ceramic board (600mm <sup>2</sup> ×0.8mm)	0.9	W
Junction Temperature	$T_J$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-15\text{V}, I_E=0$			-1.0	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$	70			
Gain-Bandwidth Product	$f_T$	$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$		200		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, f=1\text{MHz}$		30		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-10\text{mA}$	-110	-200		mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-500\text{mA}, I_B=-10\text{mA}$	-0.81	-1.3		V

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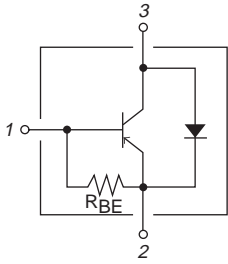
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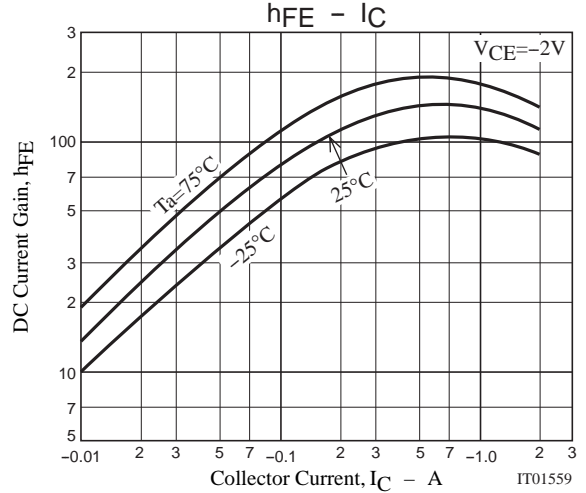
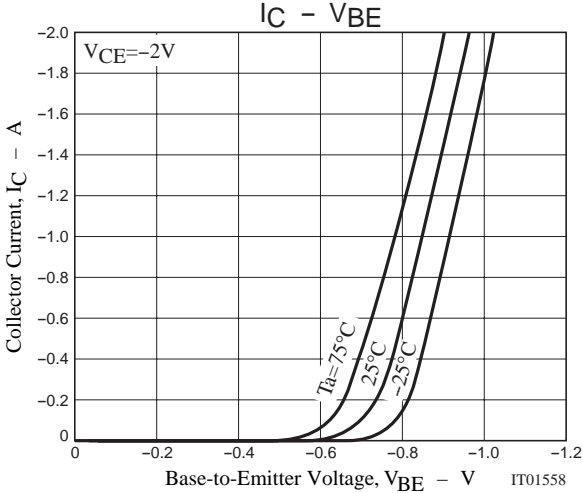
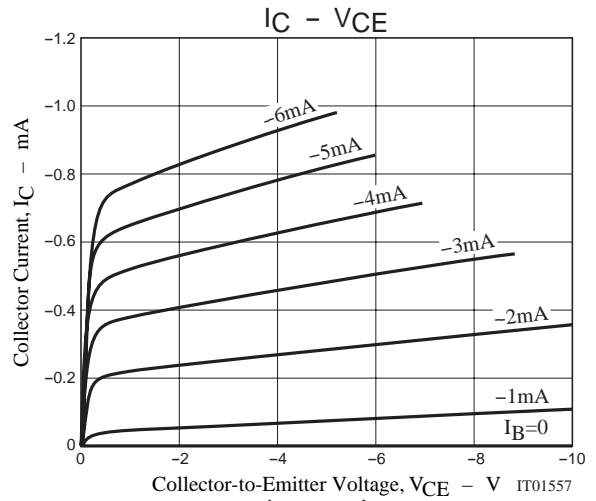
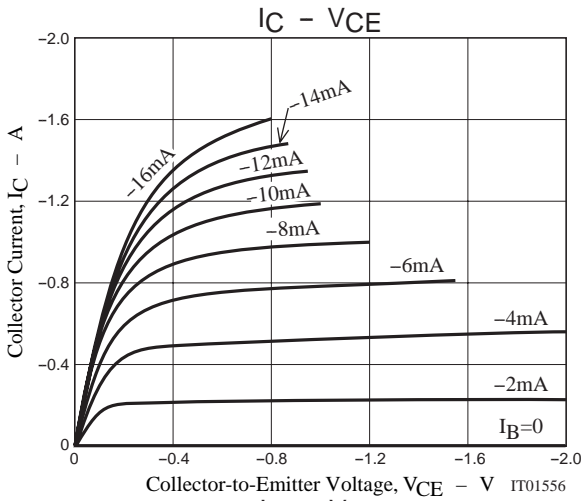
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-20			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, R_{BE} = \infty$	-15			V
Diode Forward Voltage	$V_F$	$I_E = -0.5A$			-1.5	V
Base-to-Emitter Resistance	$R_{BE}$			1.6		k $\Omega$

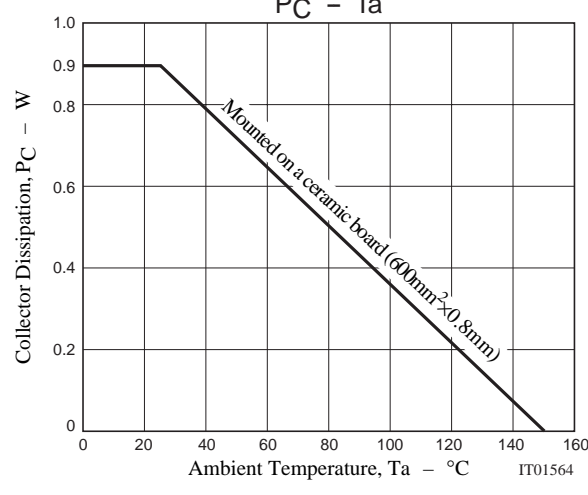
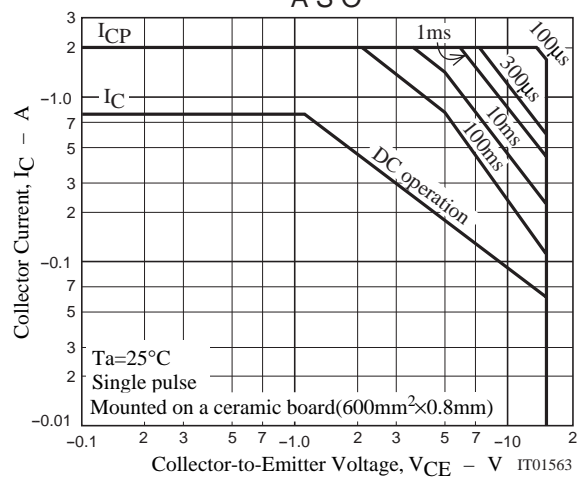
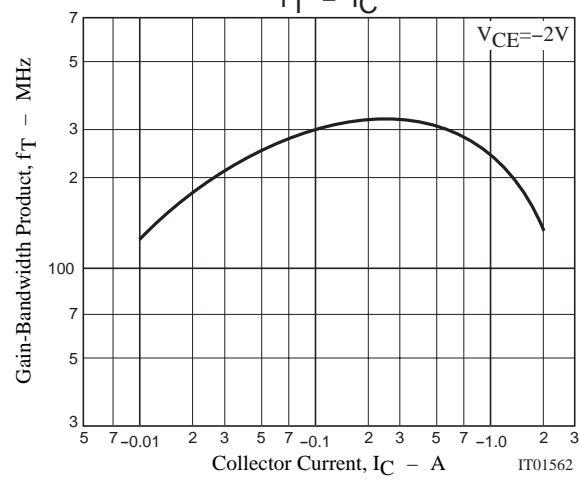
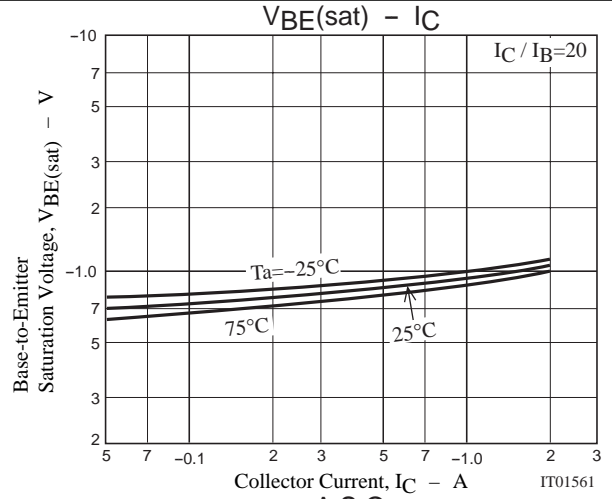
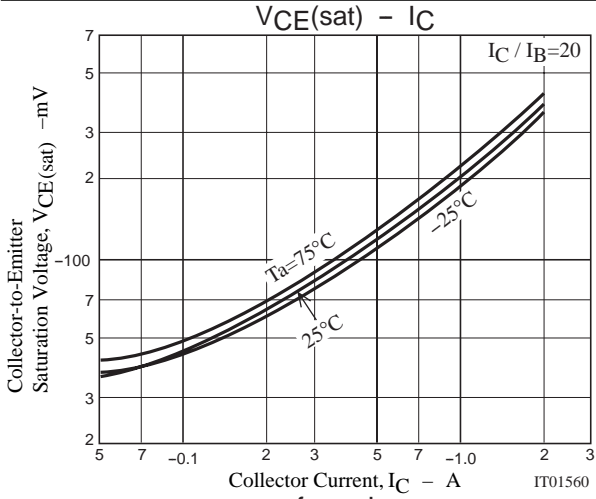
## Electrical Connection



- 1 : Base
- 2 : Emitter
- 3 : Collector



# CPH3120



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