

Ordering number:EN6354

TR : PNP Epitaxial Planar Silicon Transistor
SBD : Schottky Barrier Diode



CPH6702

DC/DC Converter Applications

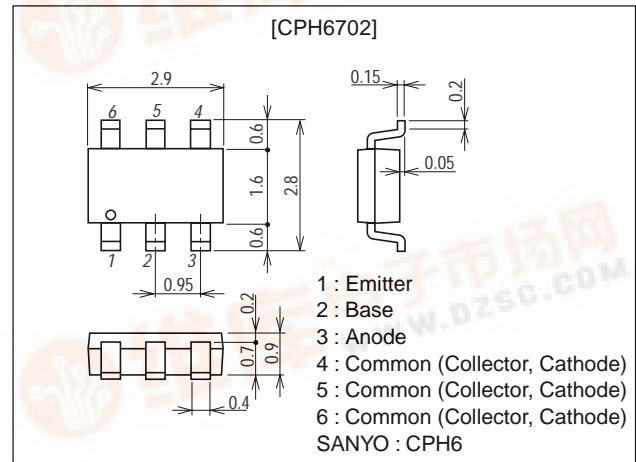
Features

- Composite type with a PNP transistor and a Schottky barrier diode contained in one package facilitating high-density mounting.
- The CPH6702 consists of two chips which are equivalent to the CPH3114 and the SBS006, respectively.
- Ultrasmall-sized package permitting applied sets to be made small and slim (mounting height 0.9mm).

Package Dimensions

unit:mm

2153A



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	V _{CB0}		-15	V
Collector-to-Emitter Voltage	V _{CE0}		-15	V
Emitter-to-Base Voltage	V _{EB0}		-5	V
Collector Current	I _C		-1.5	A
Collector Current (Pulse)	I _{CP}		-3	A
Base Current	I _B		-300	mA
Collector Dissipation	P _C	Mounted on a ceramic board (600mm ² ×0.8mm)	1.3	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +125	°C
[SBD]				
Repetitive Peak Reverse Voltage	V _{RRM}		30	V
Non-repetitive Peak Reverse Surge Voltage	V _{RSM}		30	V
Average Output Current	I _O		0.7	A
Surge Current	I _{FSM}	50Hz sine wave, 1 cycle	10	A
Junction Temperature	T _J		-55 to +125	°C
Storage Temperature	T _{stg}		-55 to +125	°C

Marking : PB

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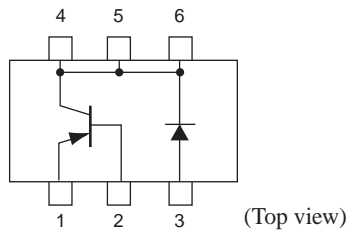


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Electrical Characteristics at Ta = 25°C

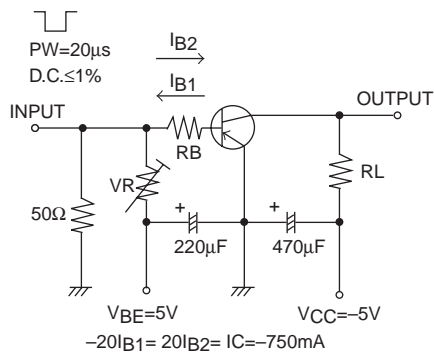
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I_{CBO}	$V_{CB}=-12V, I_E=0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=-2V, I_C=-100mA$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=-2V, I_C=-300mA$		350		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		17		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-750mA, I_B=-15mA$		-120	-180	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-750mA, I_B=-15mA$		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C=-10\mu A, I_C=0$	-5			V
Turn-ON Time	t_{on}	See specified Test Circuit.		50		ns
Storage Time	t_{stg}	See specified Test Circuit.		87		ns
Fall Time	t_f	See specified Test Circuit.		15		ns
[SBD]						
Reverse Voltage	V_R	$I_R=0.5mA$	30			V
Forward Voltage	V_{F1}	$I_F=0.3A$		0.35	0.40	V
	V_{F2}	$I_F=0.5A$		0.42	0.47	V
	V_{F3}	$I_F=0.7A$		0.5	0.55	V
Reverse Current	I_R	$V_R=10V$			200	μA
Interterminal Capacitance	C	$V_R=10V, f=1MHz$		20		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100mA$, See specified Test Circuit.			10	ns

Electrical Connection

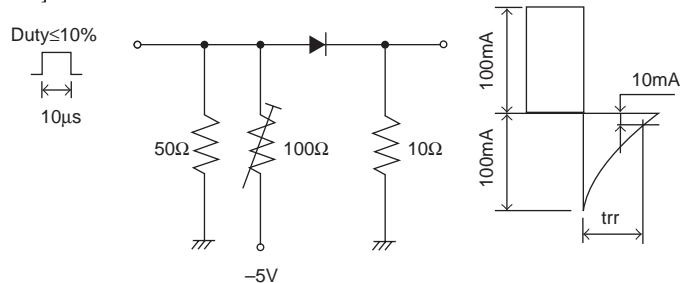


Switching Time Test Circuit

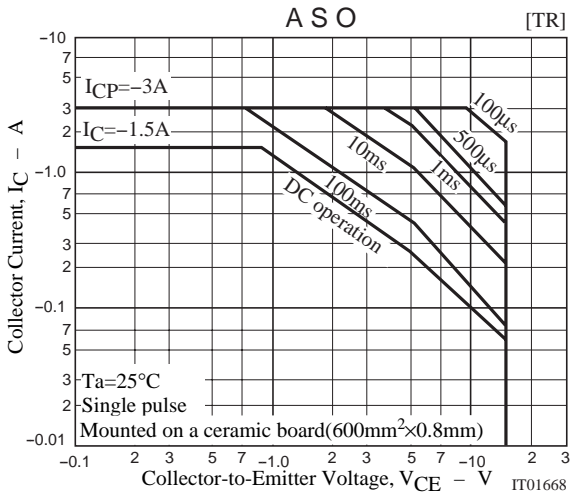
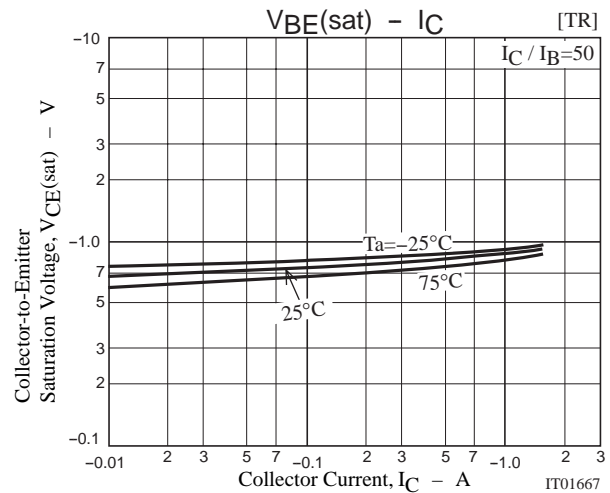
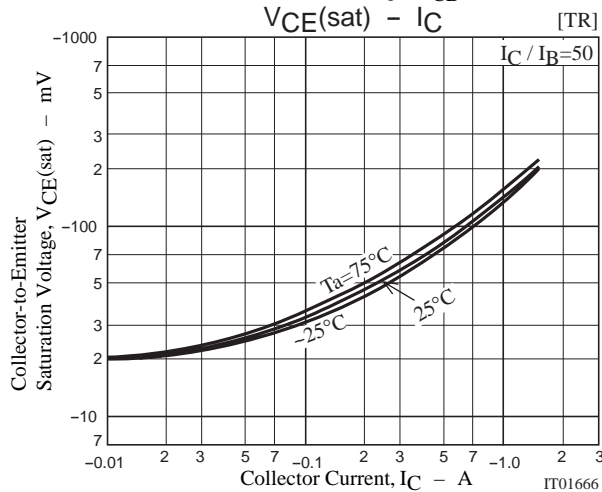
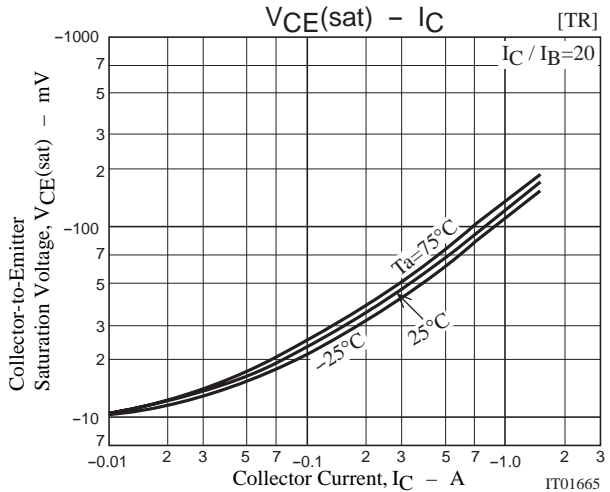
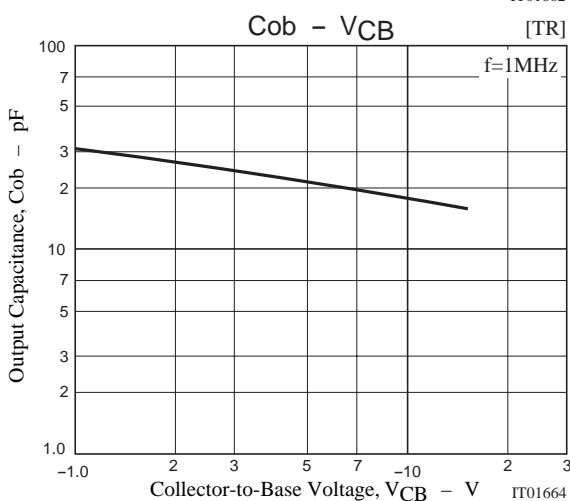
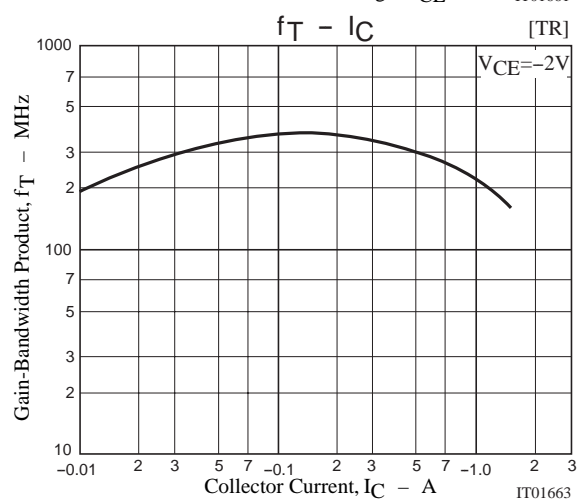
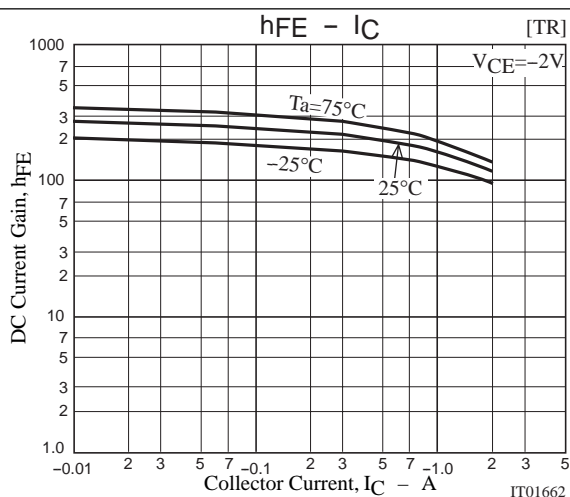
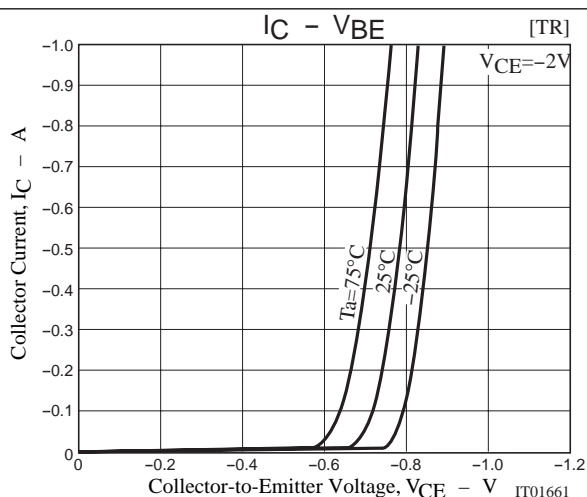
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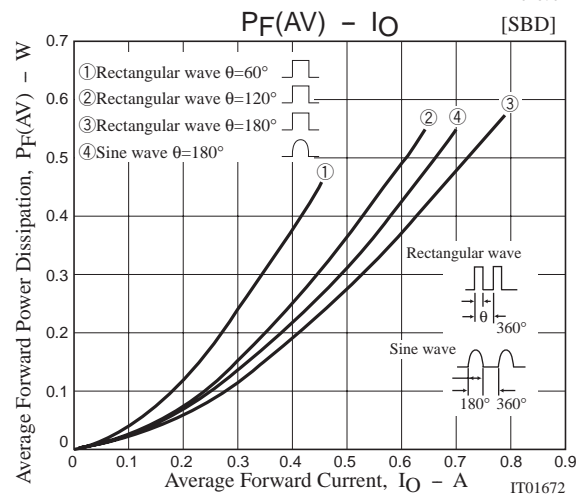
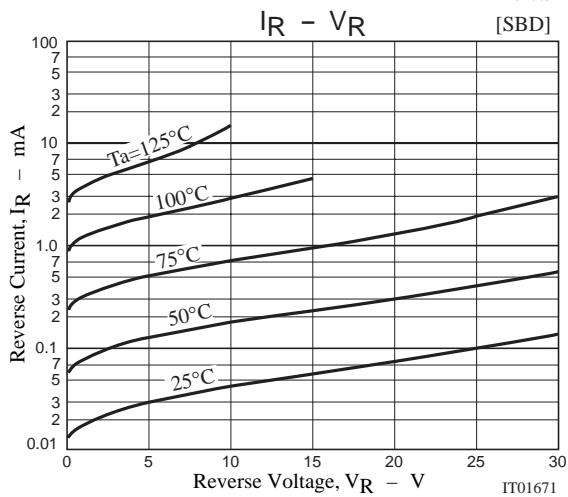
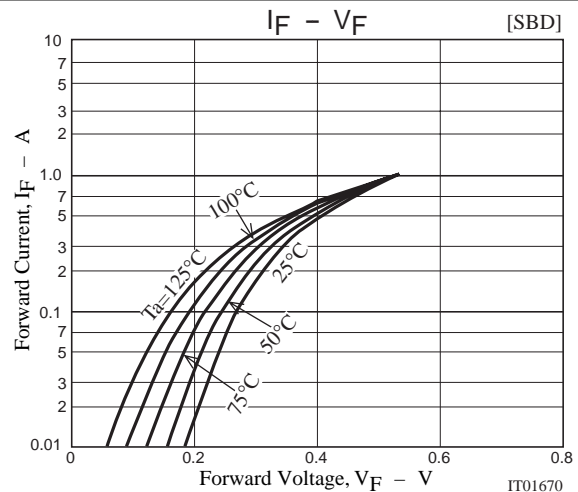
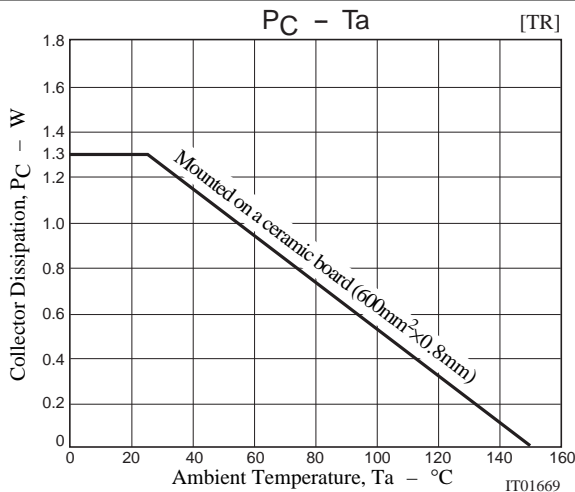
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