

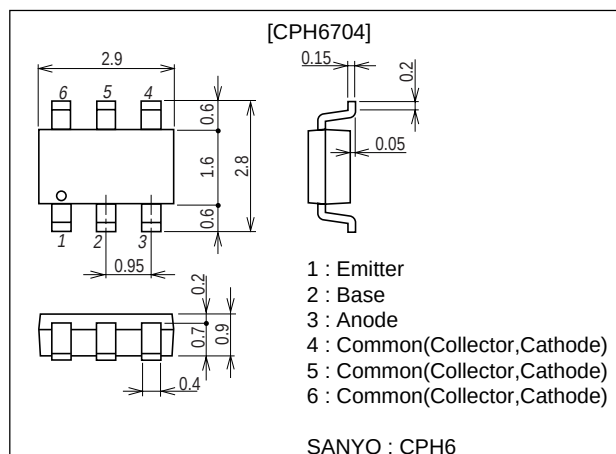
**CPH6704****DC / DC Converter Applications****Features**

- Composite type with a PNP transistor and a schottky barrier diode contained in one package facilitating high-density mounting.
- The CPH6704 consists of two chips which are equivalent to the 2SB1396 and the SB07-03C, respectively.
- Ultraminiature package facilitates miniaturization in end products.

Package Dimensions

unit : mm

2153A

**Specifications****Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	V _{CBO}		-15	V
Collector-to-Emitter Voltage	V _{CEO}		-11	V
Emitter-to-Base Voltage	V _{EB0}		-7	V
Collector Current	I _C		-3	A
Collector Current (Pulse)	I _{CP}		-5	A
Base Current	I _B		-600	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}		35	V
Average Rectified Current	I _O		0.7	A
Surge Current	I _{FSM}	50Hz sine wave, 1cycle	5	A
Junction Temperature	T _J		-55 to +125	°C
Storage Temperature	T _{stg}		-55 to +125	°C

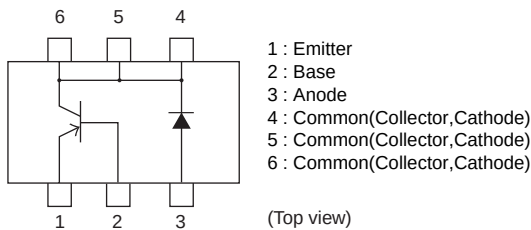
Marking : PD

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

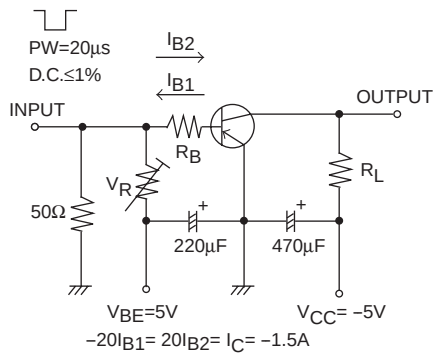
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I_{CBO}	$V_{CB}=-12V, I_E=0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-6V, I_C=0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=-2V, I_C=-500mA$	140		560	
Gain-Bandwidth Product	f_T	$V_{CE}=-10V, I_C=-300mA$		400		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		26		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-1.5A, I_B=-30mA$		-0.22	-0.4	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1.5A, I_B=-30mA$		-0.9	-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	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-11			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-7			V
Turn-ON Time	t_{on}	See specified Test Circuit		25		ns
Storage Time	t_{stg}	See specified Test Circuit		200		ns
Fall Time	t_f	See specified Test Circuit		10		ns
[SBD]						
Reverse Voltage	V_R	$I_R=300\mu A$	30			V
Forward Voltage	V_F	$I_F=0.7A$			0.55	V
Reverse Current	I_R	$V_R=10V$			80	μA
Interterminal Capacitance	C	$V_R=10V, f=1MHz$		28		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100mA$, See specified Test Circuit			10	ns

Electrical Connection

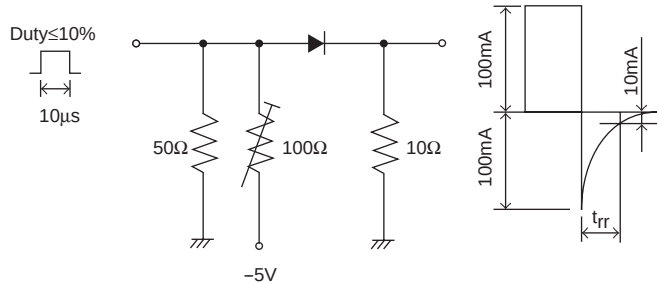


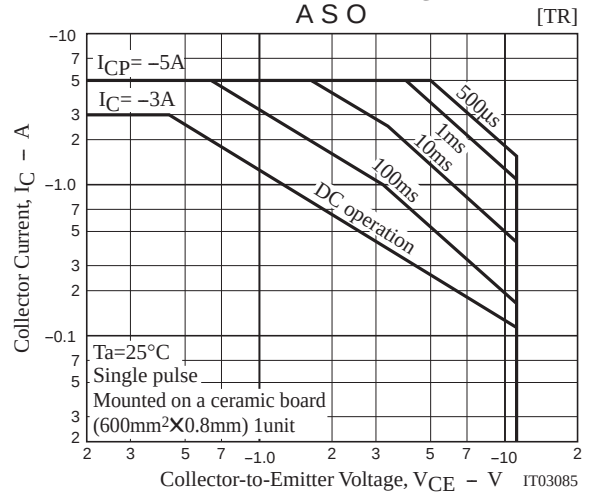
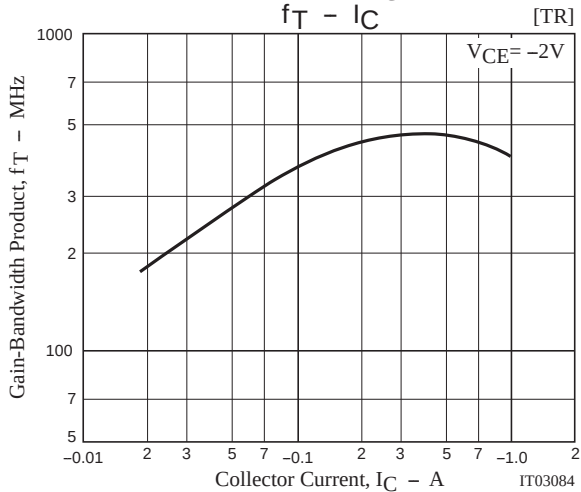
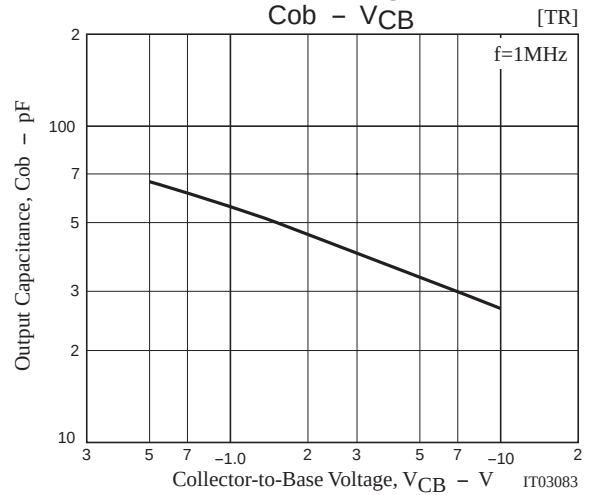
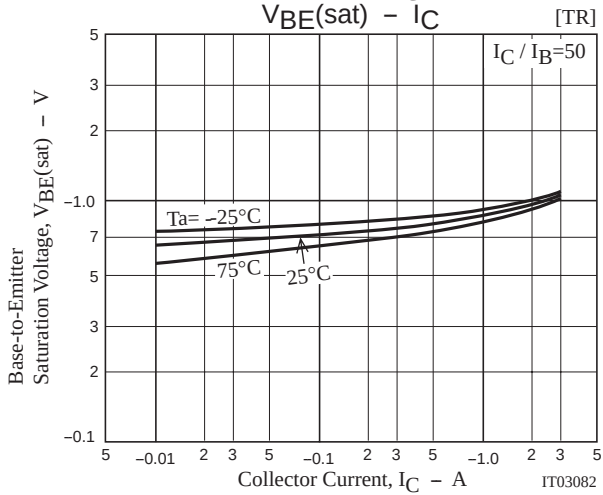
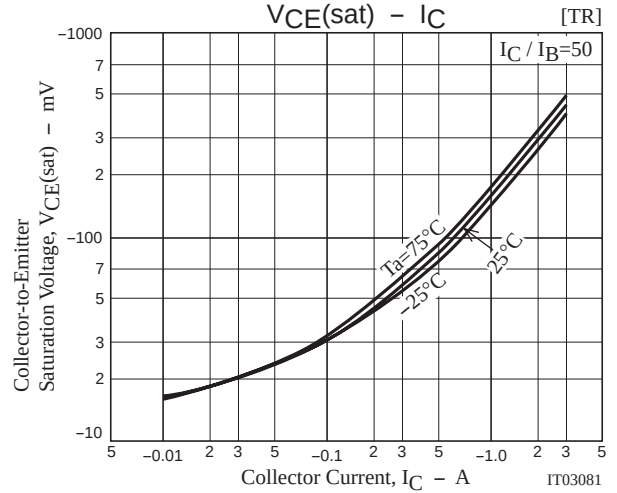
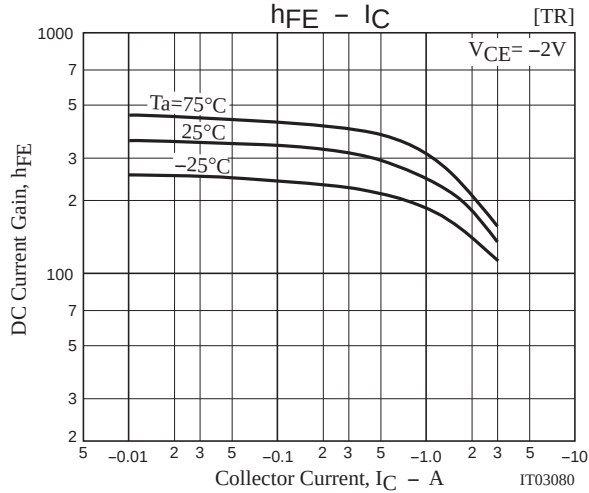
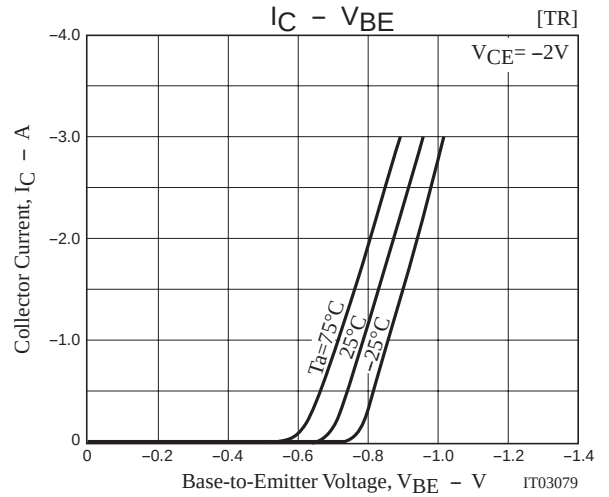
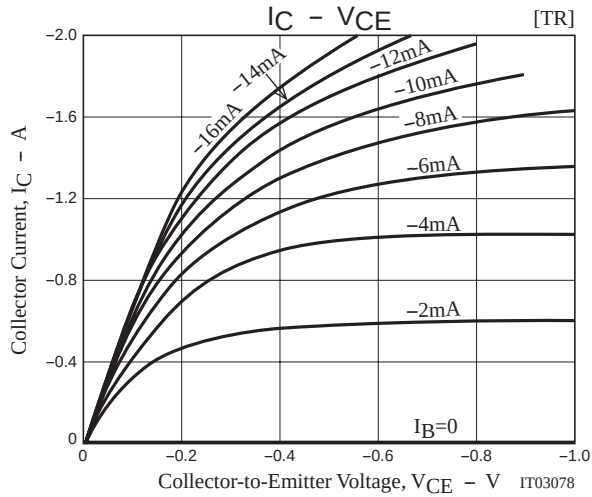
Switching Time Test Circuit

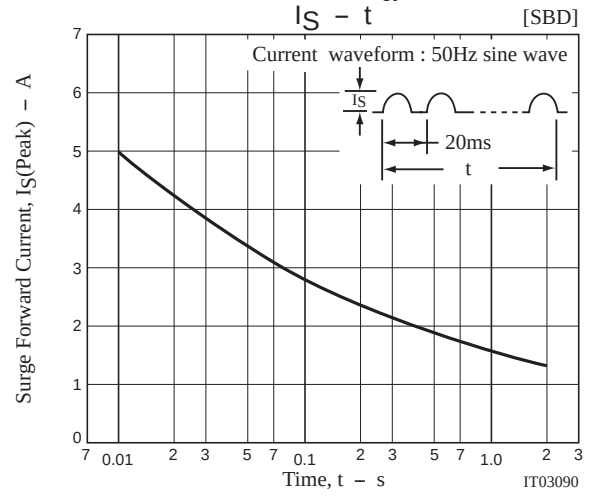
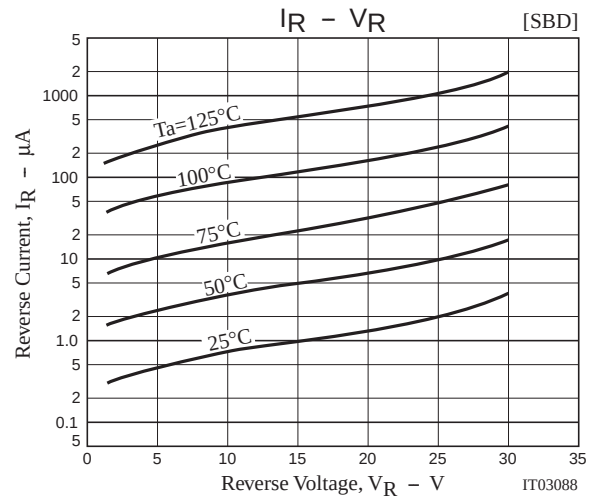
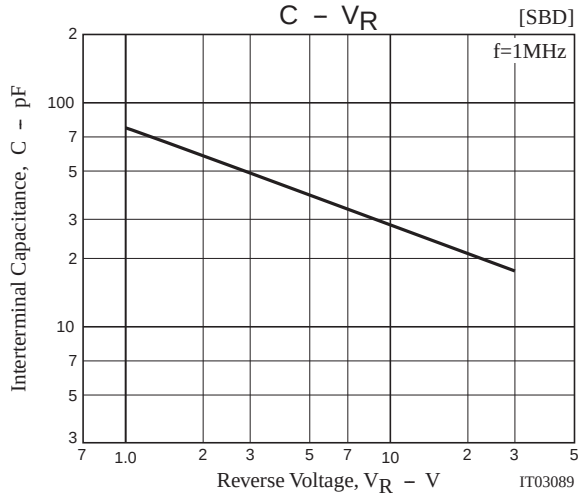
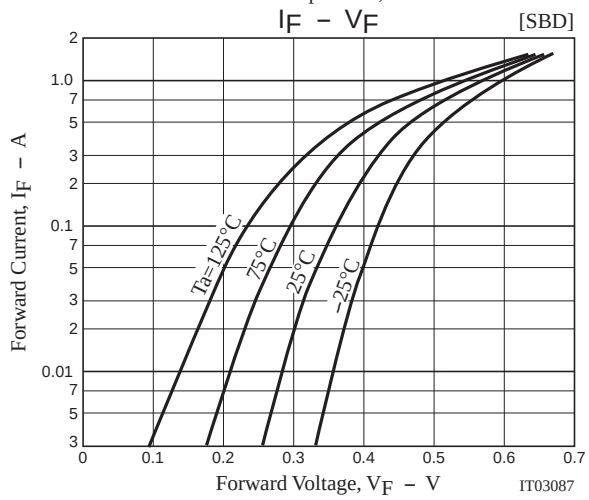
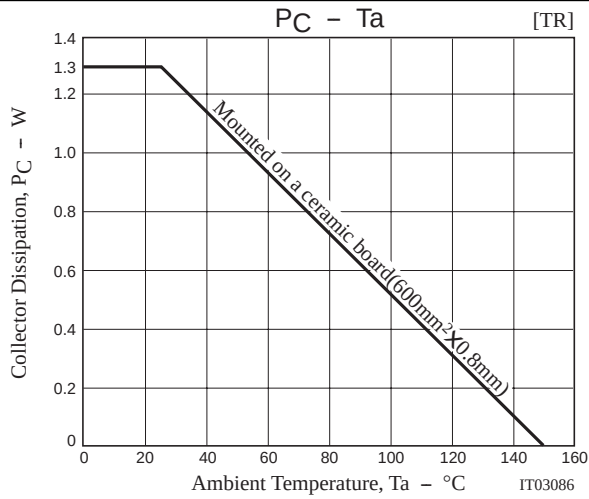
[TR]

 t_{rr} Test Circuit

[SBD]







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