



SANYO Semiconductors DATA SHEET

CPH3151 — PNP Epitaxial Planar Silicon Transistor High-Voltage Switching Applications

Applications

- DC / DC converters, relay drivers, lamp drivers, motor drivers.

Features

- Adoption of FBET, MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Ultrasmall package permitting applied sets to be small and slim (mounting height: 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}		-120	V
Collector-to-Emitter Voltage	V _{CES}		-120	V
Collector-to-Emitter Voltage	V _{CEO}		-120	V
Emitter-to-Base Voltage	V _{EBO}		-7	V
Collector Current	I _C		-2	A
Collector Current (Pulse)	I _{CP}		-3	A
Base Current	I _B		-400	mA
Collector Dissipation	P _C	When mounted on ceramic substrate (600mm ² ×0.8mm)	0.9	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Marking : BR

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21308 TI IM / D0507EA TI IM TC-00001074 No. A0870-1/4

CPH3151

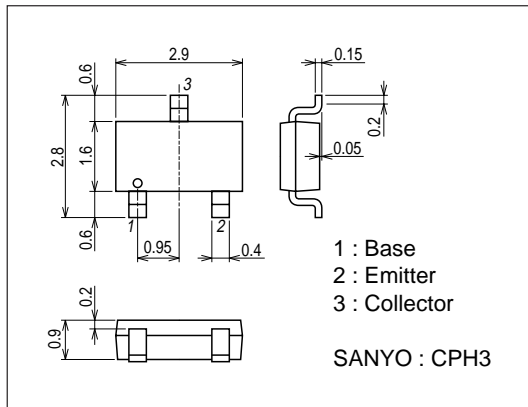
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-80\text{V}, I_E=0\text{A}$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0\text{A}$			-1	μA
DC Current Gain	h_{FE}	$V_{CE}=-5\text{V}, I_C=-100\text{mA}$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=100\text{mA}$		75		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$		21		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=-1\text{A}, I_B=-100\text{mA}$		-135	-270	mV
	$V_{CE(sat)2}$	$I_C=-0.5\text{A}, I_B=-50\text{mA}$		-80	-160	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-1\text{A}, I_B=-100\text{mA}$		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0\text{A}$	-120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=-100\mu\text{A}, R_{BE}=0\Omega$	-120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, R_{BE}=\infty$	-120			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0\text{A}$	-7			V
Turn-ON Time	t_{on}	See specified Test Circuit.		55		ns
Storage Time	t_{stg}	See specified Test Circuit.		840		ns
Fall Time	t_f	See specified Test Circuit.		40		ns

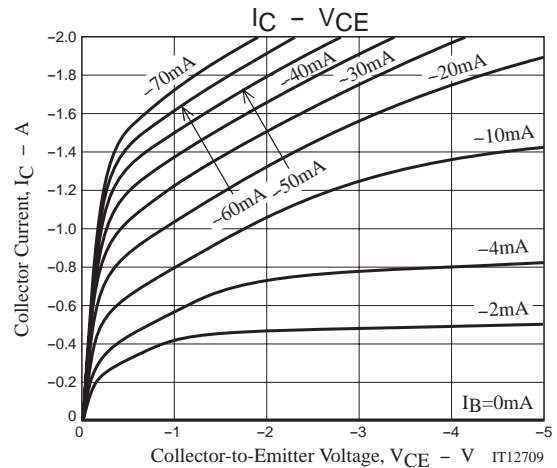
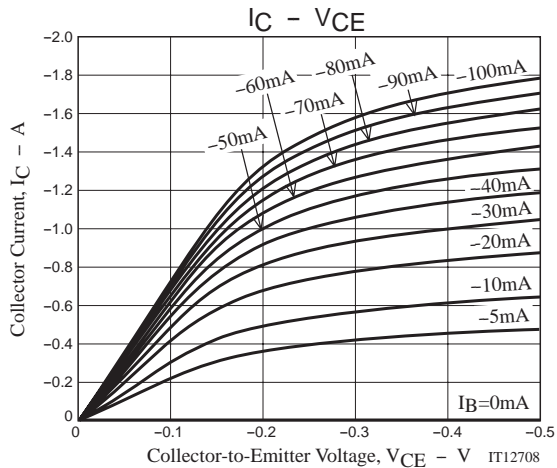
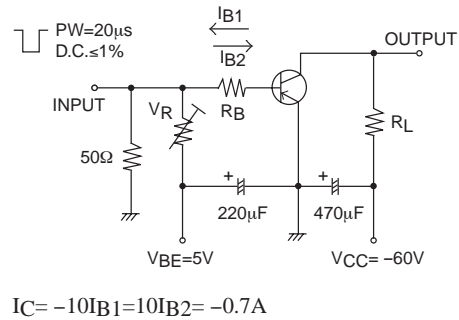
Package Dimensions

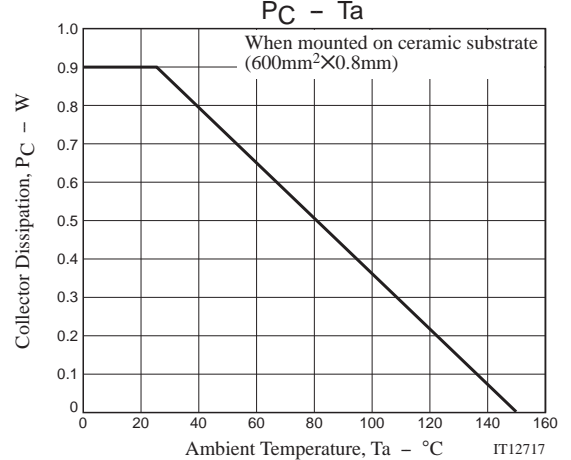
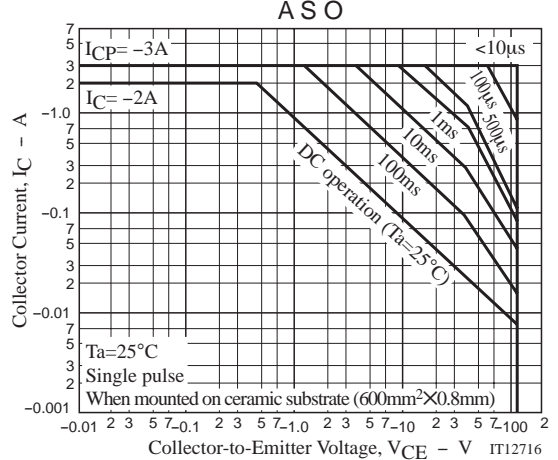
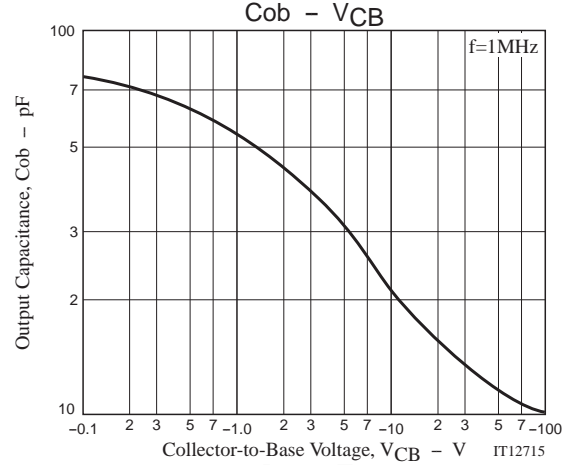
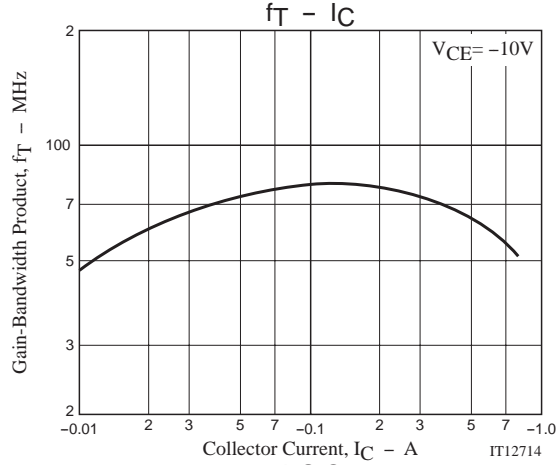
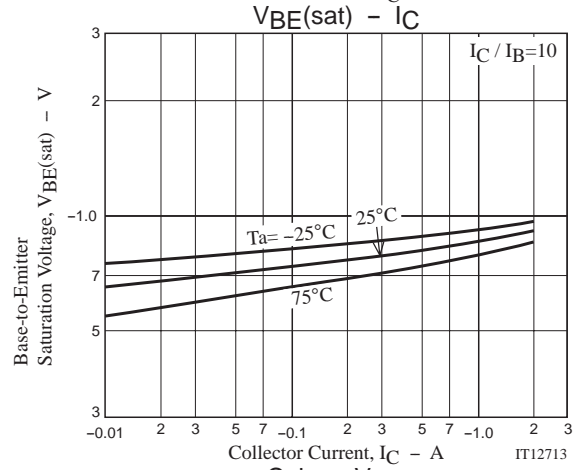
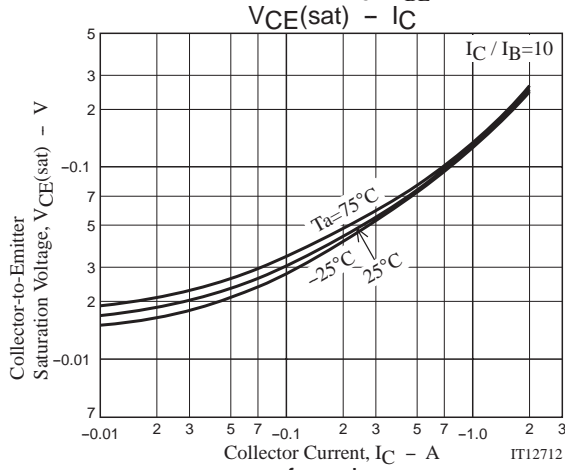
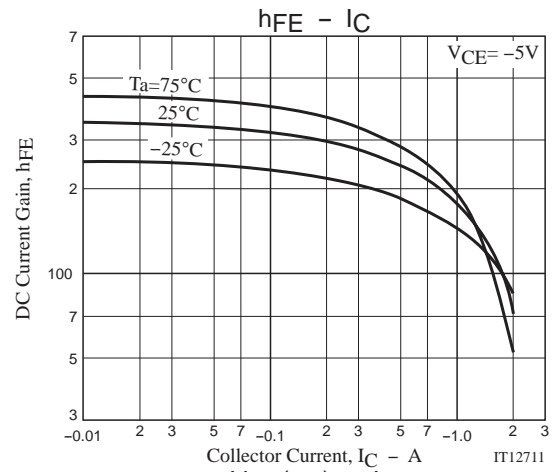
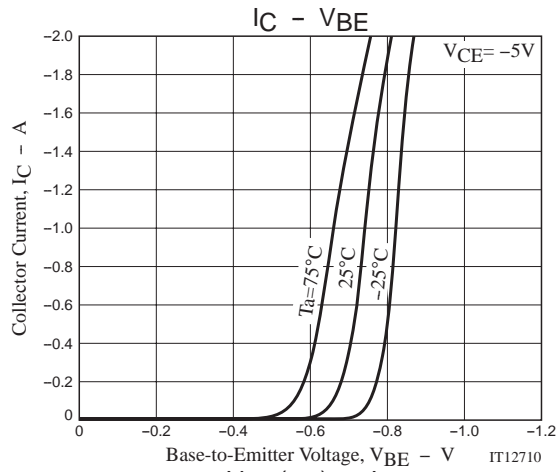
unit : mm (typ)

7015A-003



Switching Time Test Circuit





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