Ordering number : ENA0870A

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_{CBO}		–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 (600mm²×0.8mm)	0.9	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

Marking : BR

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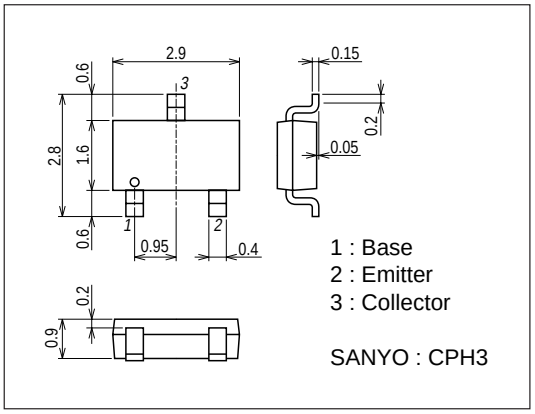
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=–80V, I_E=0A			–1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–5V, I_C=0A			–1	μA
DC Current Gain	h_{FE}	V_{CE}=–5V, I_C=–100mA	200		560	
Gain-Bandwidth Product	f_T	V_{CE}=–10V, I_C=–100mA		75		MHz
Output Capacitance	Cob	V_{CB}=–10V, f=1MHz		21		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)1	I_C=–1A, I_B=–100mA		–135	–270	mV
	V_{CE}(sat)2	I_C=–0.5A, I_B=–50mA		–80	–160	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=–1A, I_B=–100mA		–0.85	–1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0A	–120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=–100μA, R_{BE}=0Ω	–120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–120			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0A	–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

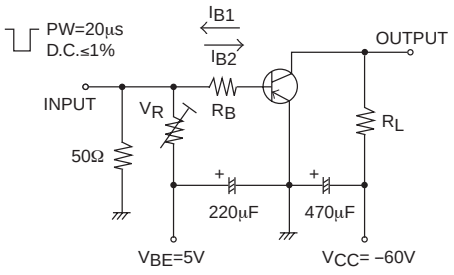
Package Dimensions

unit : mm (typ)

7015A-003



Switching Time Test Circuit



I_C= –10I_{B1}=10I_{B2}= –0.7A