Ordering number:ENN6394

PNP/NPN Epitaxial Planar Silicon Transistors

CPH3114/CPH3214

DC/DC Converter Applications

Applications

· Relay drivers, lamp drivers, motor drivers.

Features

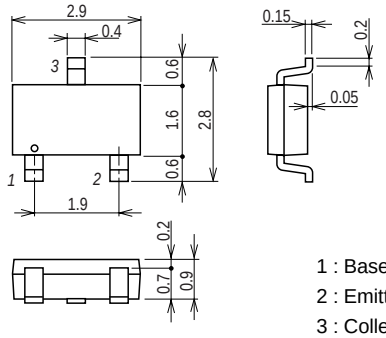
· Adoption of MBIT processes.
· Large current capacitance.
· Low collector-to-emitter saturation voltage.
· High-speed switching.
· Ultrasmall package facilitates miniaturization in end products (mounting height : 0.9mm).
· High allowable power dissipation.

Package Dimensions

unit:mm

2150A

[CPH3114/CPH3214]



1 : Base
2 : Emitter
3 : Collector
SANYO : CPH3

Specifications

( ) : CPH3114

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)15	V
Collector-to-Emitter Voltage	V_{CEO}		(–)15	V
Emitter-to-Base Voltage	V_{EBO}		(–)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 (600mm²×0.8mm)	0.9	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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
				450		MHz
Output Capacitance	Cob	V_{CB}=(–)10V, f=1MHz		(17)9		pF

Marking : CPH3114 : AP, CPH3214 : CP

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)750mA, I_B=(–)15mA		(–120)	(–180)	mV
				130	200	mV
		I_C=(–)1.5mA, I_B=(–)30mA		(–210)	(–320)	mV
				240	360	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=(–)10μA, I_E=0	(–)15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)5			V
Turn-ON Time	t_{on}	See specified test circuit.		(50)40		ns
Storage Time	t_{stg}	See specified test circuit.		(90)		ns
				180		ns
Fall Time	t_f	See specified test circuit.		(15)20		ns

Switching Time Test Circuit