



SANYO Semiconductors

DATA SHEET

CPH3115 / CPH3215

PNP / NPN Epitaxial Planar Silicon Transistors

DC / DC Converter Applications

Applications

- Relay drivers, lamp drivers, motor drivers, flash.

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.

() : CPH3115

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-30)40	V
Collector-to-Emitter Voltage	V _{CEO}		(-30)	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 X0.8mm)	0.9	mW
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)30V, I _E =0			(-0.1)	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} =(-)4V, I _C =0			(-0.1)	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)100mA	200		560	

Marking : CPH3115 : AQ, CPH3215 : CQ

Continued on next page.

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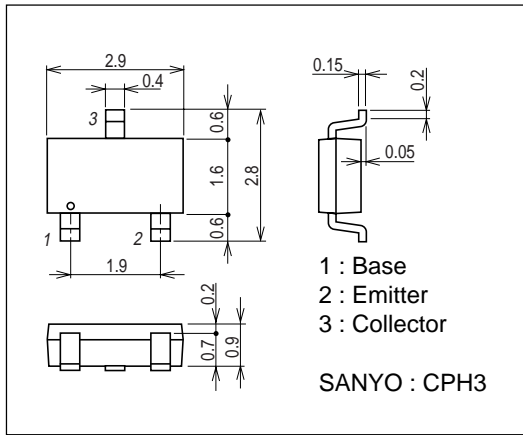
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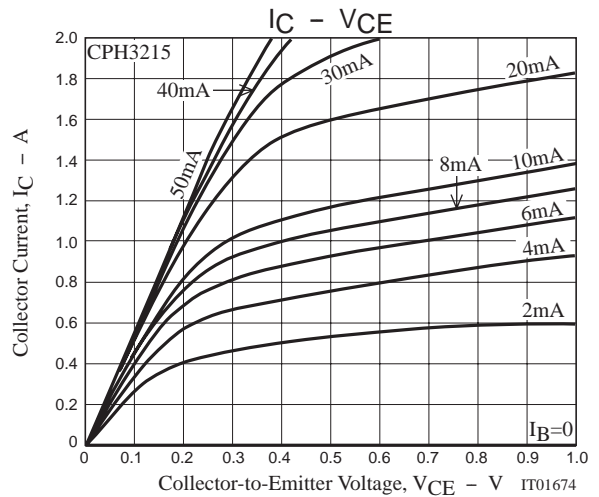
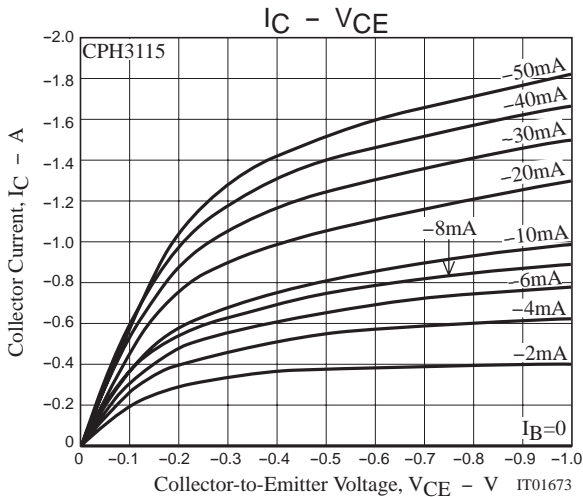
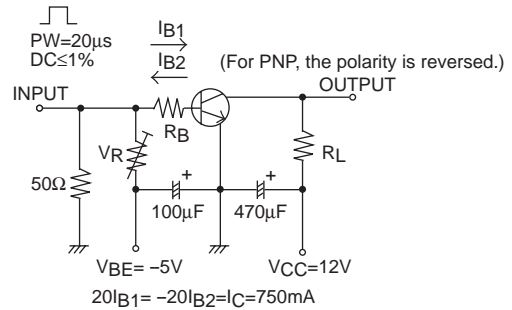
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)300mA$		(450)		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		500		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)750mA, I_B=(-)15mA$		(9)8		pF
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)750mA, I_B=(-)15mA$		(-250)	(-375)	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$		150	225	mV
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$		(-0.85)	(-1.2)	V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$		(-30)		V
Turn-ON Time	t_{on}	See specified test circuit.		40		V
Storage Time	t_{stg}	See specified test circuit.		(-30)		V
Fall Time	t_f	See specified test circuit.		(-5)		V
				35		ns
				(115)		ns
				205		ns
				30		ns

Package Dimensions

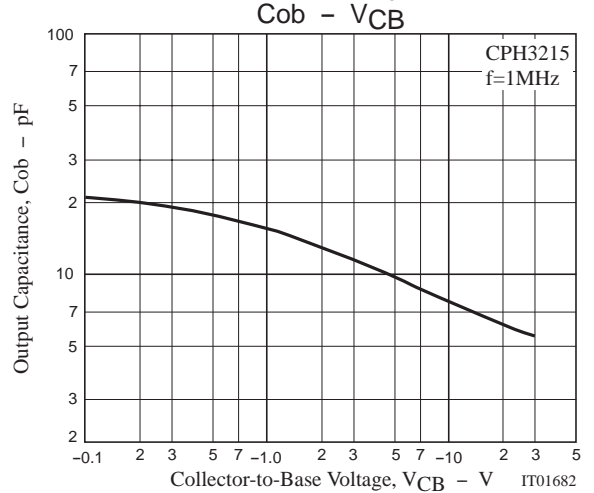
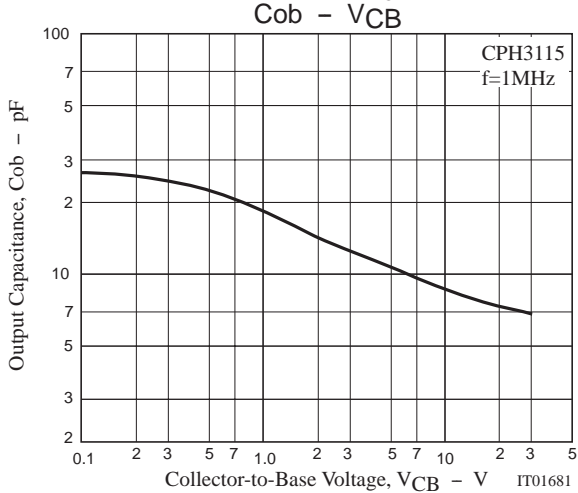
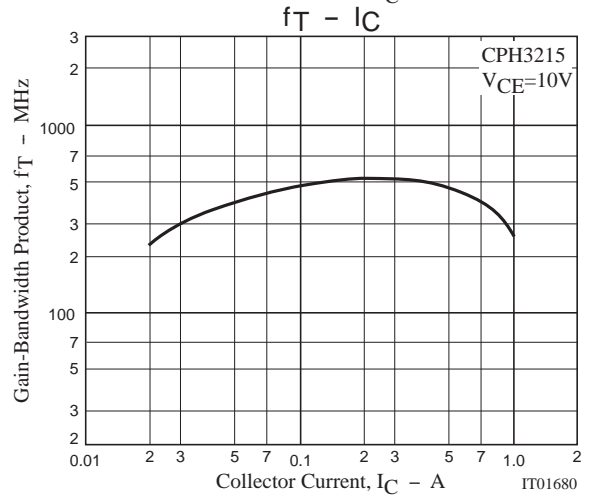
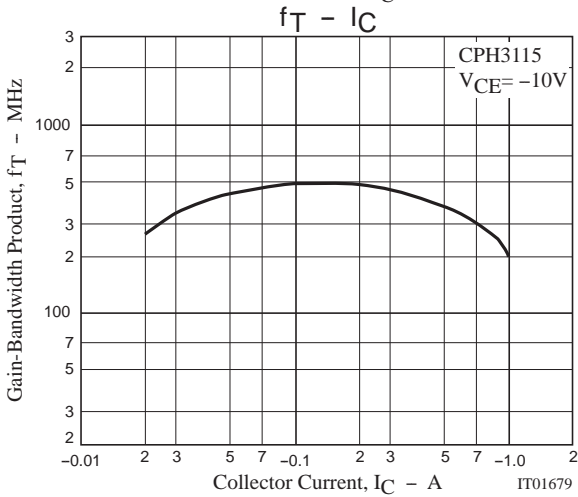
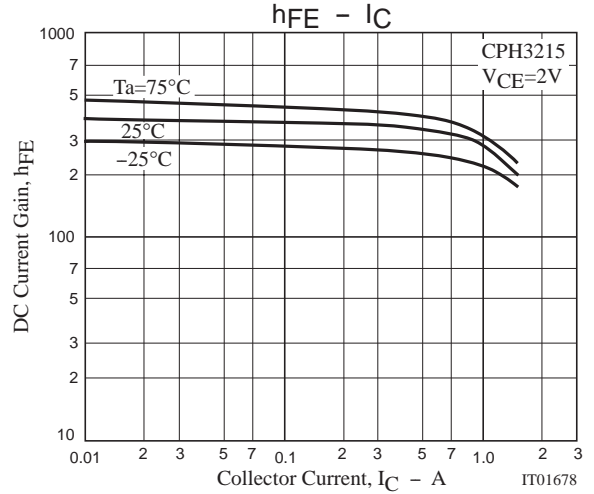
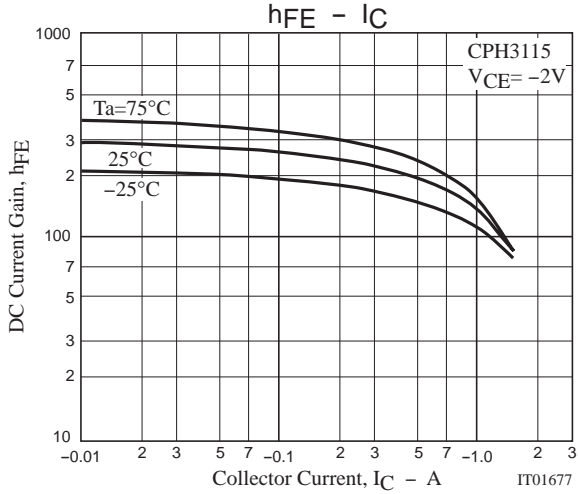
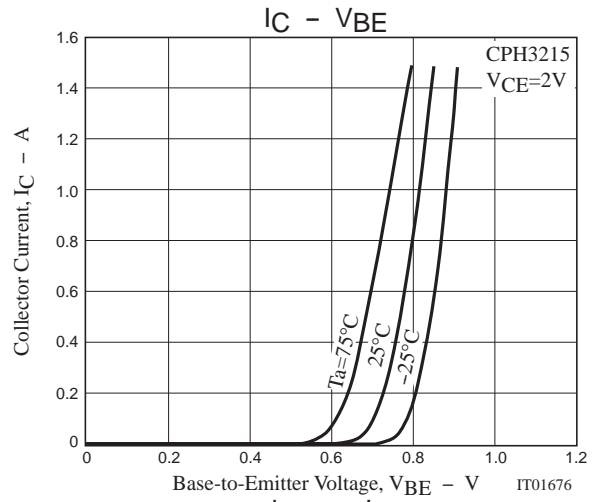
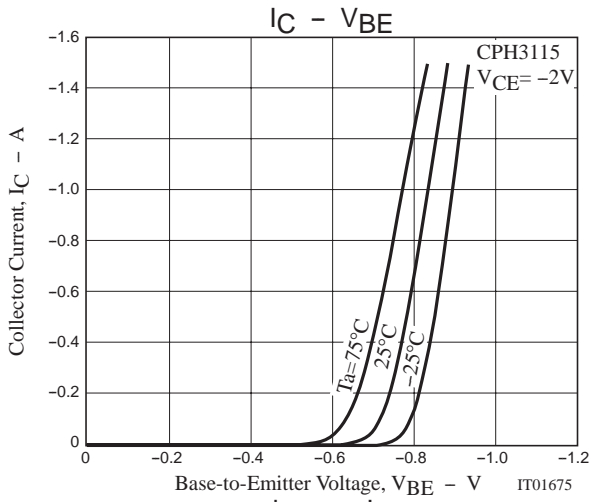
unit : mm
2150A



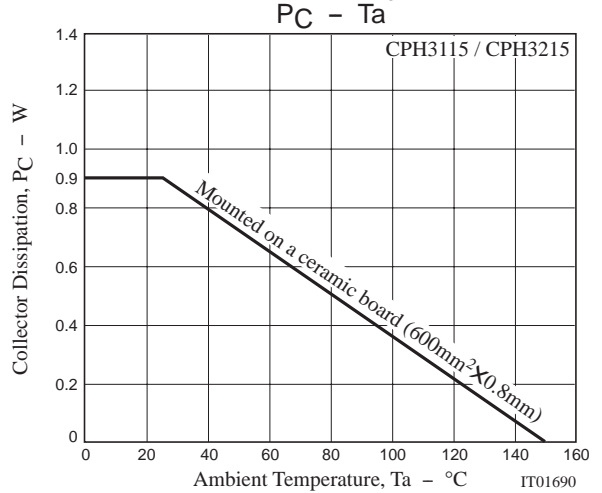
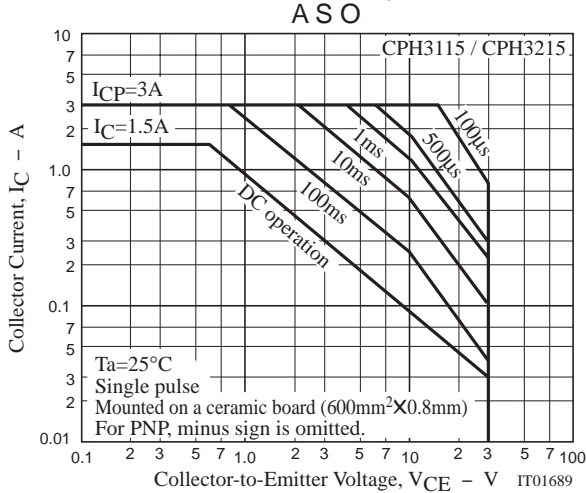
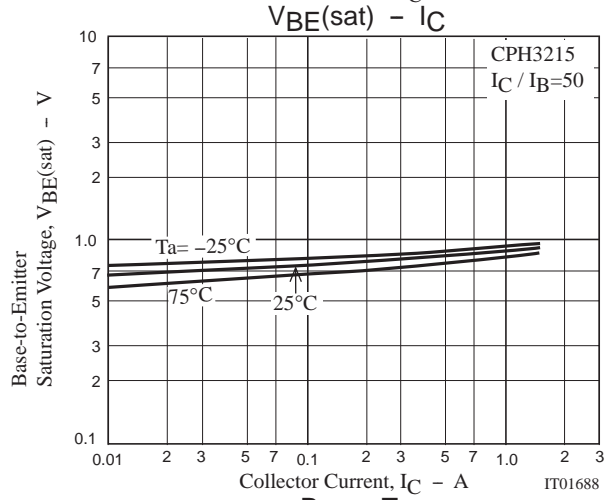
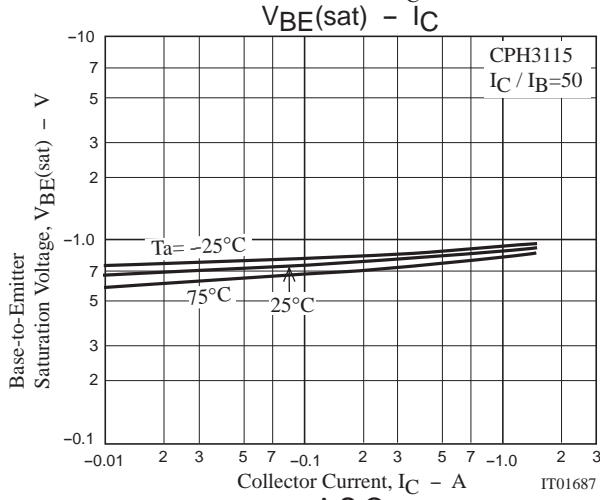
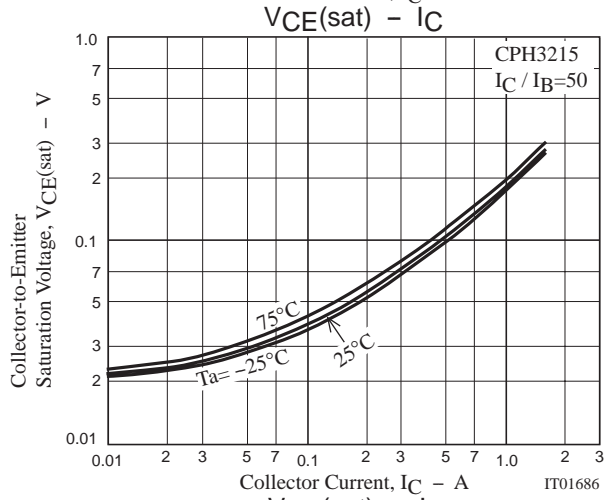
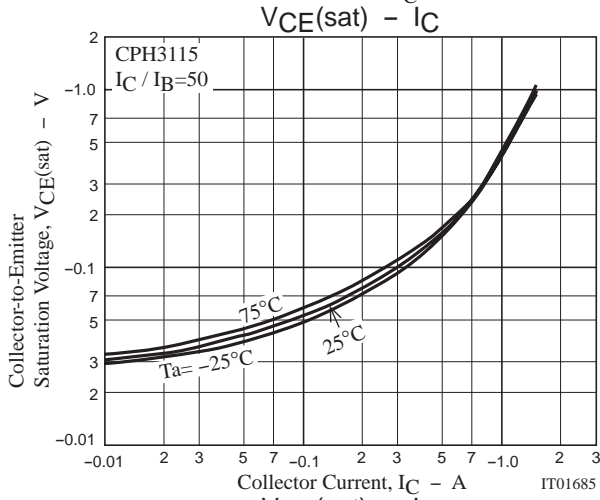
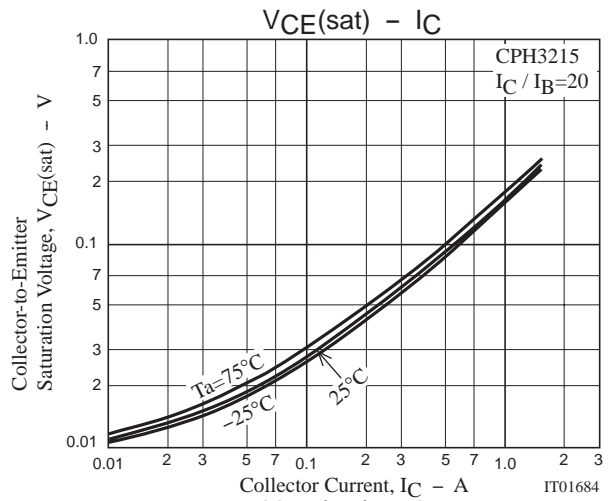
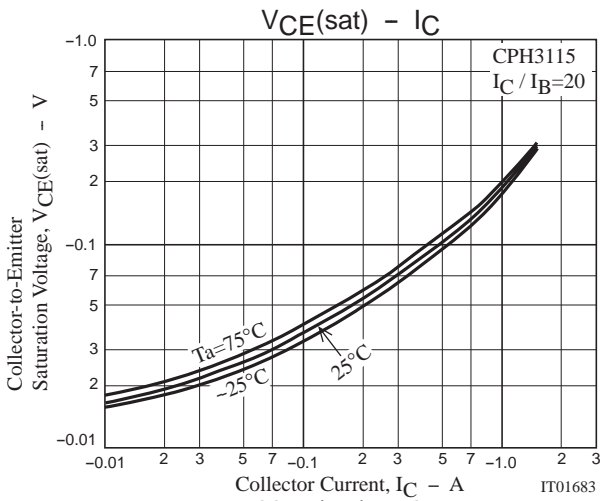
Switching Time Test Circuit



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