

Silicon NPN transistor epitaxial type CP841

[Applications]

High voltage switching

High voltage driver

[Feature]

High collector breakdown voltage VCEO= 300V, VCBO= 300V

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	300	V
Collector-emitter voltage	VCEO	300	V
Emitter-base voltage	VEBO	5	V
Collector current (DC)	IC	0.5	A
Collector current (Pulse)	ICP	1	A
Base current	IB	0.2	A
Junction temperature	Tj	150	C
Storage temperature	Tstg	-55 to 150	C

[Electrical characteristics (Ta=25C)]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	300	-	-	V	IC= 100uA
Collector-emitter breakdown voltage	BVCEO	300	-	-	V	IC= 10mA
Emitter-base breakdown voltage	BVBEO	5	-	-	V	IE= 100uA
Collector cut-off current	ICBO	-	-	100	nA	VCB= 250V
Collector cut-off current	ICES	-	-	100	nA	VCES= 250V
Emitter cut-off current	IEBO	-	-	100	nA	VEB= 4V
DC current gain 1	hFE1	100	-	-	-	VCE= 10V, IC= 1mA
DC current gain 2	hFE2	80	-	300	-	VCE= 10V, IC= 0.1A
DC current gain 3	hFE3	20	-	-	-	VCE= 10V, IC= 0.25A
Collector-emitter saturation voltage 1	VCE(sat)1	-	-	0.2	V	IC= 0.1A, IB= 10mA
Collector-emitter saturation voltage 2	VCE(sat)2	-	-	0.3	V	IC= 0.25A, IB= 25mA
Base-emitter saturation voltage	VBE(sat)	-	-	1	V	IC= 0.25A, IB= 25mA
Base-emitter saturation voltage	VBE(sat)	-	-	1	V	VCE= 10V, IC= 0.25A
Transition frequency	fT	75	-	-	MHz	VCE= 10V, IE= -30mA
Collector output capacitance	Cob	-	-	5	pF	VCB= 10V, IE= 0A, f= 1MHz
Delay time	td	-	53	-	ns	VCC= 100V, IC= 0.1A IB1= -IB2= 10mA
Rise time	tr	-	126	-	ns	
Storage time	tstg	-	2580	-	ns	
Fall time	tf	-	228	-	ns	

Notice 1) These are measured data of transistors assembled by PHENITEC SEMICONDUCTOR Corp. and are for reference only.

Notice 2) The contents described herein are subject to change without notice.

Fig.1 IC - VBE(on)
at VCE= 10V, Ta= 25C

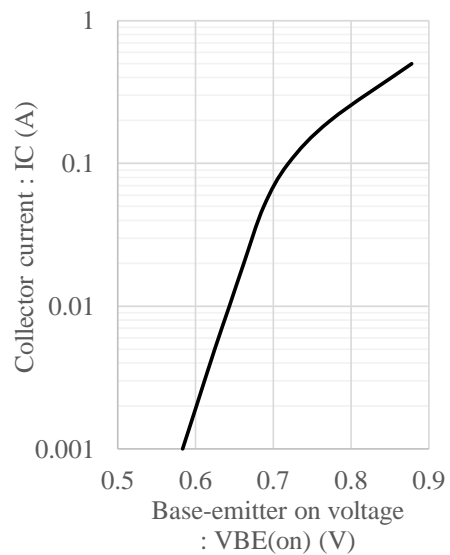


Fig.2 hFE - IC
at VCE= 10V, Ta= 25C

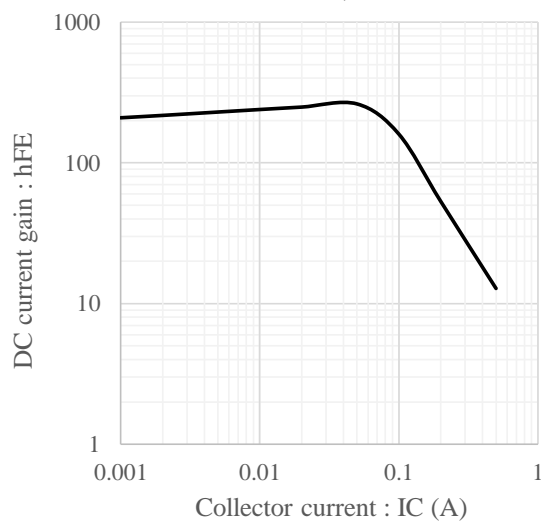


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

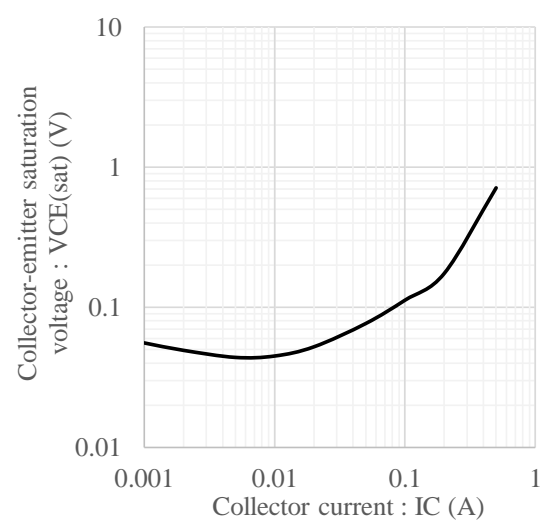


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

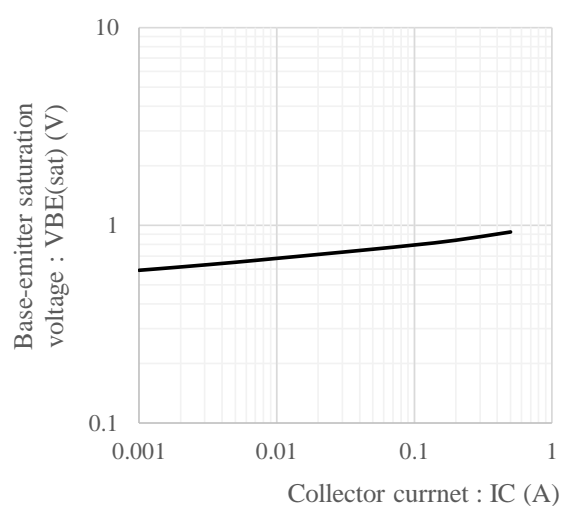


Fig.5 fT - IE
at VCE= 10V, Ta= 25C

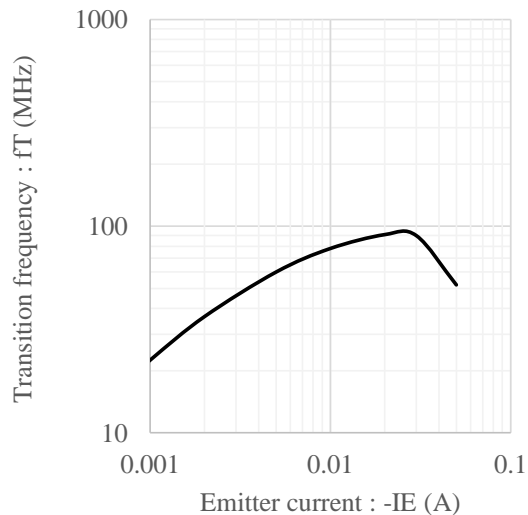


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

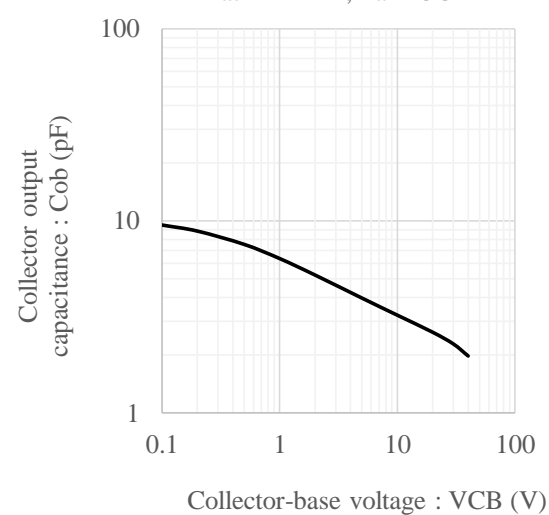


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

