

**Silicon NPN transistor epitaxial type
C5843**
[Applications]

Low VCE(sat) Driver

[Feature]

Very low collector saturation voltage VCE(sat)= 0.2V (Max.) at IC= 0.15A, IB= 15mA

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	140	V
Collector-emitter voltage	VCEO	80	V
Emitter-base voltage	VEBO	7	V
Collector current (DC)	IC	1	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	140	-	-	V	IC= 100uA
Collector-emitter breakdown voltage	BVCEO	80	-	-	V	IC= 30mA
Emitter-base breakdown voltage	BVEBO	7	-	-	V	IE= 100uA
Collector cut-off current	ICBO	-	-	10	nA	VCB= 90V
Emitter cut-off current	IEBO	-	-	10	nA	VEB= 5V
DC current gain 1	hFE1	50	-	-	-	VCE= 10V, IC= 0.1mA
DC current gain 2	hFE2	90	-	-	-	VCE= 10V, IC= 10mA
DC current gain 3	hFE3	100	-	300	-	VCE= 10V, IC= 0.15A
DC current gain 4	hFE4	50	-	-	-	VCE= 10V, IC= 0.5A
DC current gain 5	hFE5	15	-	-	-	VCE= 10V, IC= 1A
Collector-emitter saturation voltage 1	VCE(sat)1	-	-	0.2	V	IC= 0.15A, IB= 15mA
Collector-emitter saturation voltage 2	VCE(sat)2	-	-	0.5	V	IC= 0.5A, IB= 50mA
Base-emitter saturation voltage	VBE(sat)	-	-	1.1	V	IC= 0.15A, IB= 15mA
Transition frequency	fT	100	-	-	MHz	VCE= 10V, IE= -50mA
Collector output capacitance	Cob	-	-	12	pF	VCB= 10V, f = 1MHz, IE= 0A
Collector input capacitance	Cib	-	-	60	pF	VEB= 0.5V, f = 1MHz, IE= 0A

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

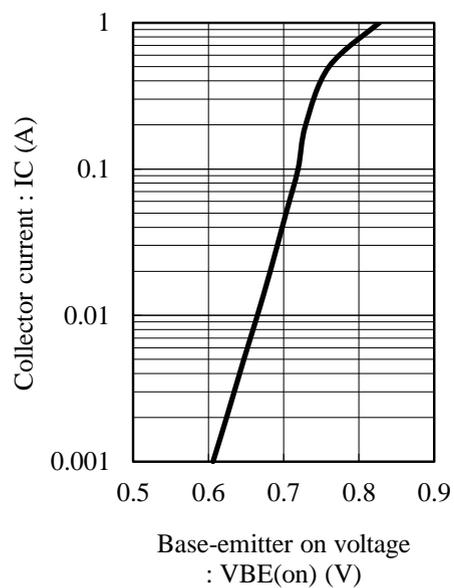


Fig.2 hFE - IC
at VCE= 10V, Ta= 25C

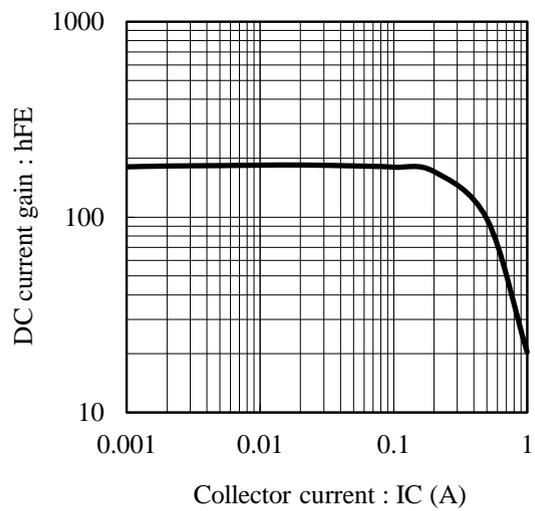


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

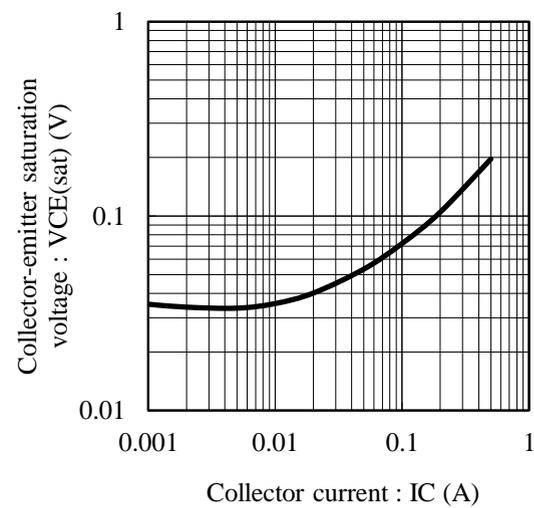


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

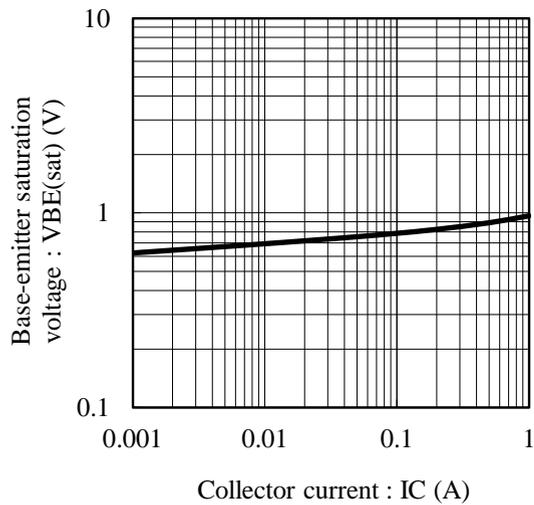


Fig.5 fT - IE
at VCE= 10V, Ta= 25C

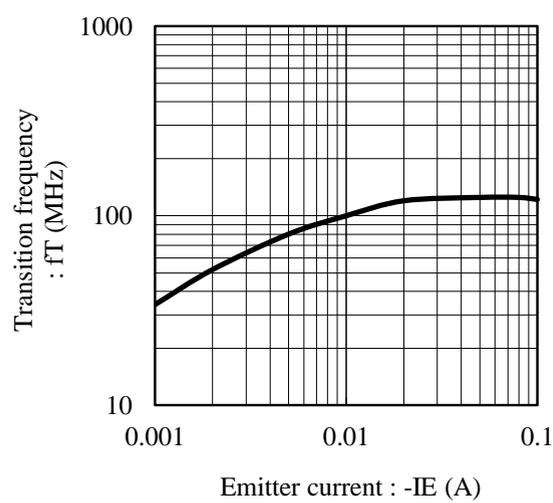


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

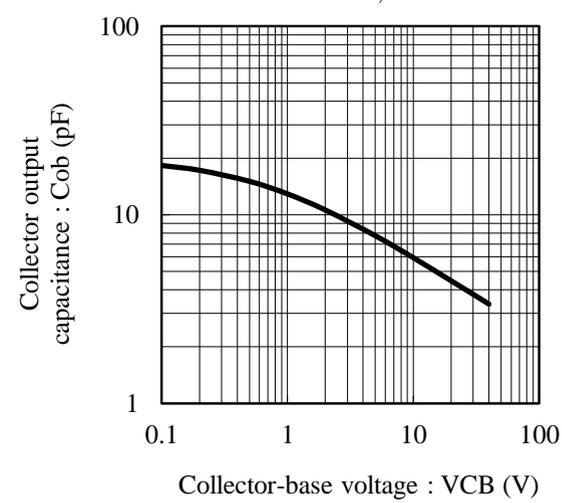


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

