Silicon NPN transistor epitaxial type
C5862

[Applications]

Supply line switching circuits
Battery management
DC-DC convertor
Strobe flash
Motor and lamp driver

[Feature]

High DC gain hFE= 350- at VCE= 2V, IC= 0.1A
Low collector saturation voltage VCE(sat)< 180mV at IC= 1A, IB= 50mA

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	40	V
Collector-emitter voltage	VCEO	40	V
Emitter-base voltage	VEBO	5	V
Collector current (DC)	IC	2	A
Collector current (Pulse)	ICP	3	A
Base current (Pulse)	IBP	0.3	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-emitter breakdown voltage	BVCEO	40	-	-	V	IC= 10mA, IB= 0A
Collector cut-off current	ICBO	-	-	100	nA	VCB= 30V, IE= 0A
Emitter cut-off current	IEBO	-	-	100	nA	VEB= 4V, IC= 0A
DC current gain 1	hFE 1	350	470	-	-	VCE= 2V, IC= 0.1A
DC current gain 2	hFE 2	300	450	-	-	VCE= 2V, IC= 0.5A
DC current gain 3	hFE 3	300	420	-	-	VCE= 2V, IC= 1A
DC current gain 4	hFE 4	150	250	-	-	VCE= 2V, IC= 2A
Collector-emitter saturation voltage 1	VCE(sat) 1	-	45	70	mV	IC= 0.1A, IB= 1mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	70	100	mV	IC= 0.5A, IB= 50mA
Collector-emitter saturation voltage 3	VCE(sat) 3	-	120	180	mV	IC= 0.75A, IB= 15mA
Collector-emitter saturation voltage 4	VCE(sat) 4	-	130	180	mV	IC= 1A, IB= 50mA
Collector-emitter saturation voltage 5	VCE(sat) 5	-	240	320	mV	IC= 2A, IB= 0.2A
Base-emitter saturation voltage	VBE(sat)	-	-	1.1	V	IC= 2A, IB= 0.2A
Base-emitter on voltage	VBE(on)	-	-	0.75	V	VCE= 2V, IC= 0.1A
Transition frequency	fT	100	210	-	MHz	VCE= 10V, IE= -0.1A
Collector output capacitance	Cob	-	11	20	pF	VCB= 10V, 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= 2V, Ta= 25C

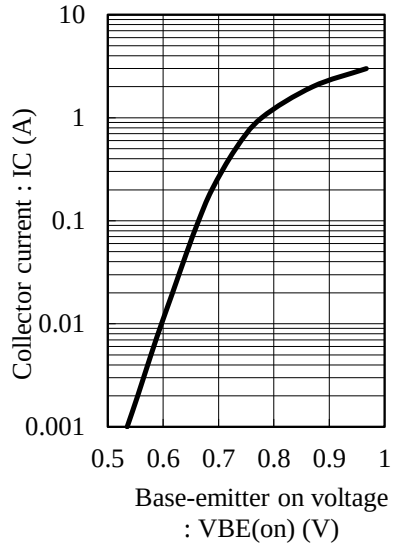

Fig.2 hFE - IC
at VCE= 2V, Ta= 25C

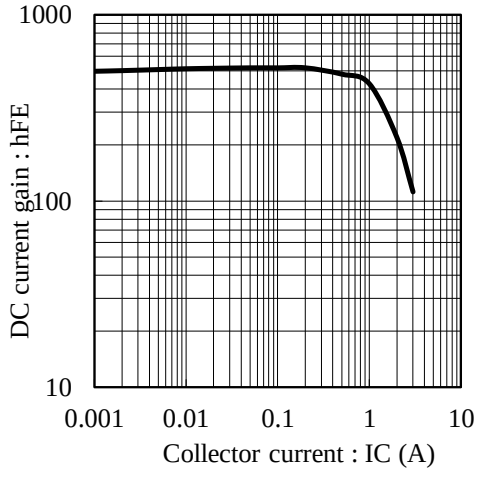

Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

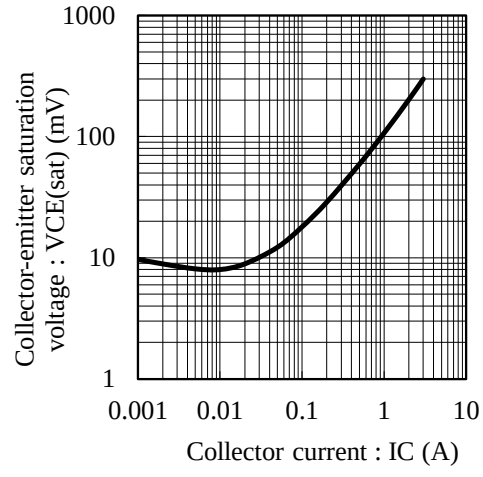

Fig.4 VCE(sat) - IC
at IC/IB= 20, Ta= 25C

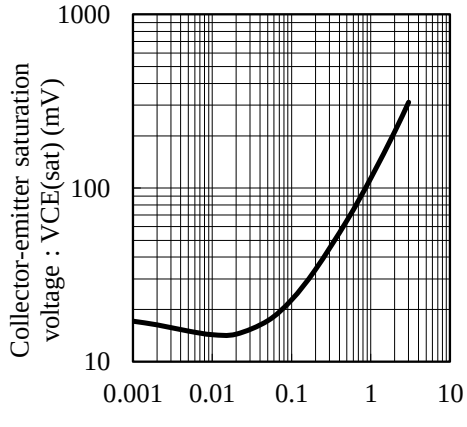

Fig.5 VCE(sat) - IC
at IC/IB= 50, Ta= 25C

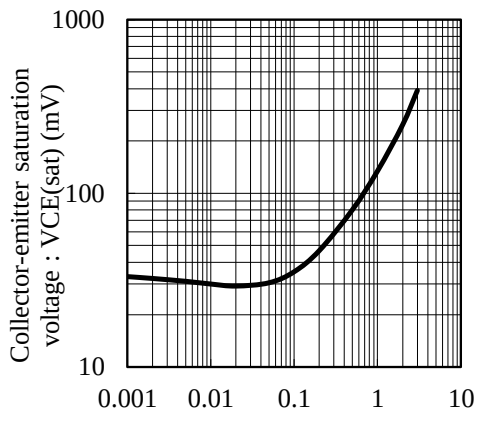

Fig.6 VCE(sat) - IC
at IC/IB= 100, Ta= 25C

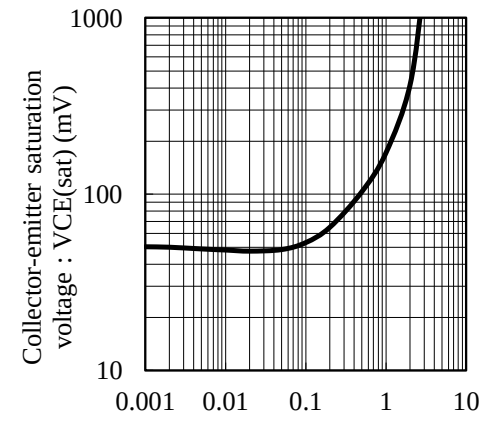

Fig.7 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

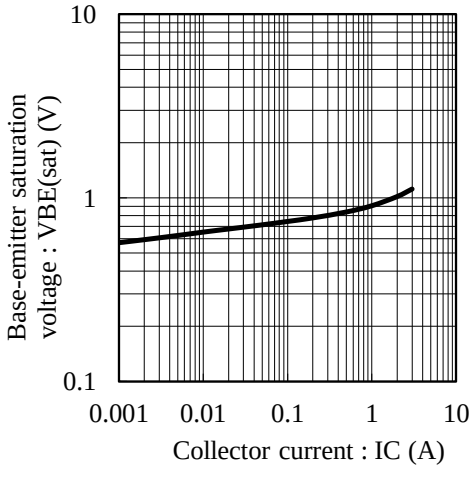

Fig.8 fT - IE
at VCE= 10V, Ta= 25C

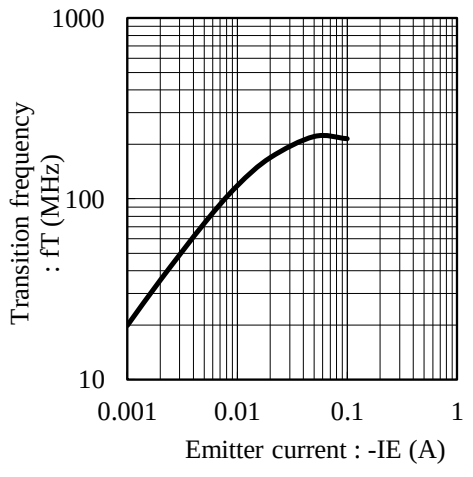

Fig.9 Cob - VCB
at f= 1MHz, Ta= 25C

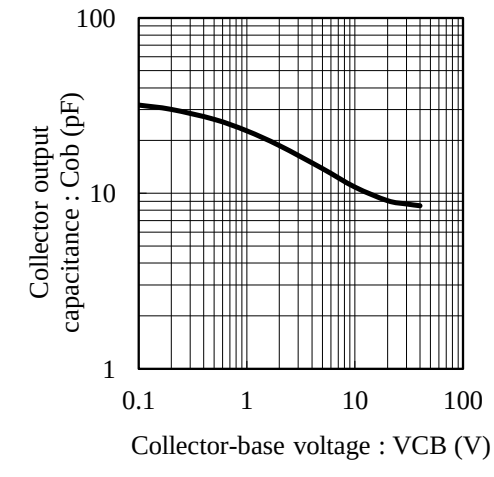

Fig.10 Cib - VEB
at f= 1MHz, Ta= 25C