

Silicon PNP transistor epitaxial type A5866

[Applications]

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

[Feature]

High DC gain $hFE= 300-600$ at $VCE= -2V, IC= -0.1A$
 Low collector saturation voltage $VCE(sat)< -225mV$ 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	300	450	600	-	VCE= -2V, IC= -0.1A
DC current gain 2	hFE 2	260	-	-	-	VCE= -2V, IC= -0.5A
DC current gain 3	hFE 3	210	-	-	-	VCE= -2V, IC= -1A
DC current gain 4	hFE 4	100	-	-	-	VCE= -2V, IC= -2A
Collector-emitter saturation voltage 1	VCE(sat) 1	-	-55	-100	mV	IC= -0.1A, IB= -1mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	-70	-110	mV	IC= -0.5A, IB= -50mA
Collector-emitter saturation voltage 3	VCE(sat) 3	-	-140	-225	mV	IC= -0.75A, IB= -15mA
Collector-emitter saturation voltage 4	VCE(sat) 4	-	-140	-225	mV	IC= -1A, IB= -50mA
Collector-emitter saturation voltage 5	VCE(sat) 5	-	-240	-350	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	200	-	MHz	VCE= -10V, IE= 0.1A
Collector output capacitance	Cob	-	23	28	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.

No. A5866-20130318

Fig.1 IC - VBE(on)
at VCE=-2V, Ta= 25C

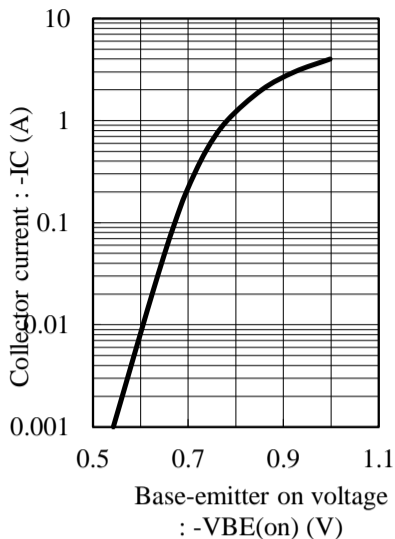


Fig.2 hFE - IC
at VCE=-2V, Ta= 25C

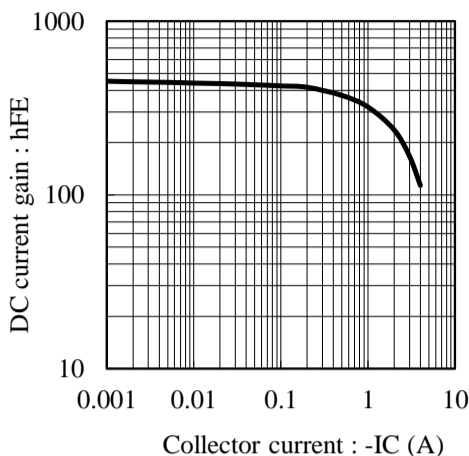


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

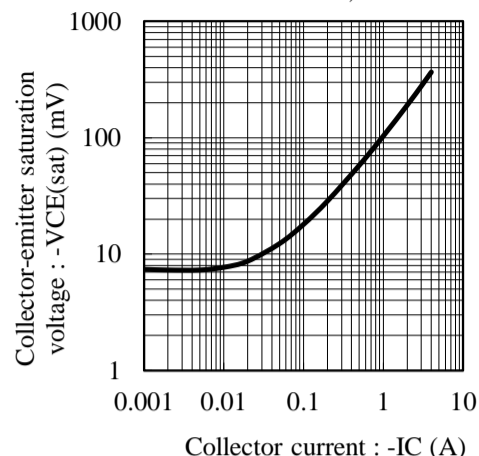


Fig.4 VCE(sat) - IC
at IC/IB= 20, Ta= 25C

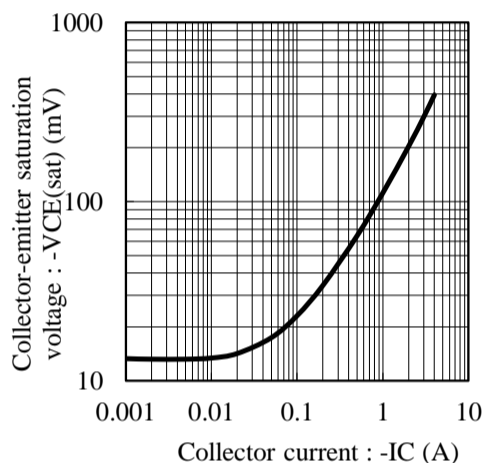


Fig.5 VCE(sat) - IC
at IC/IB= 50, Ta= 25C

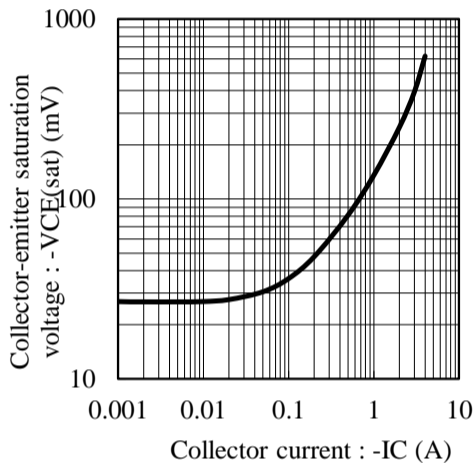


Fig.6 VCE(sat) - IC
at IC/IB= 100, Ta= 25C

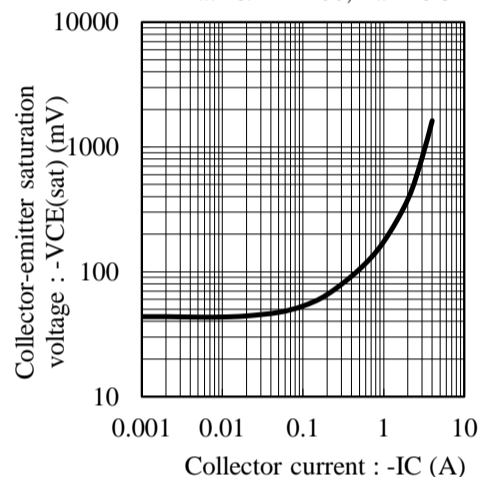


Fig.7 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

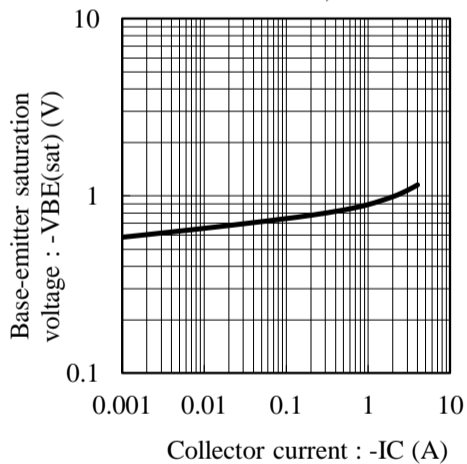


Fig.8 fT - IE
at VCE=-10V, Ta= 25C

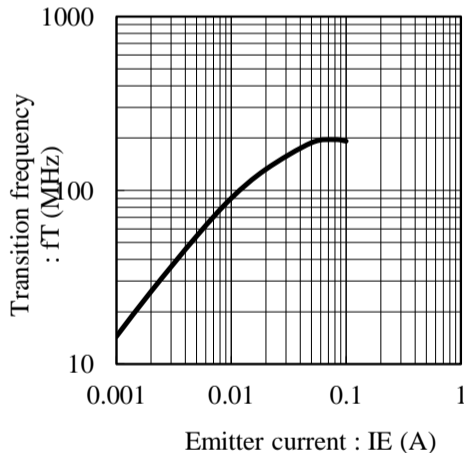


Fig.9 Cob - VCB
at f= 1MHz, Ta= 25C

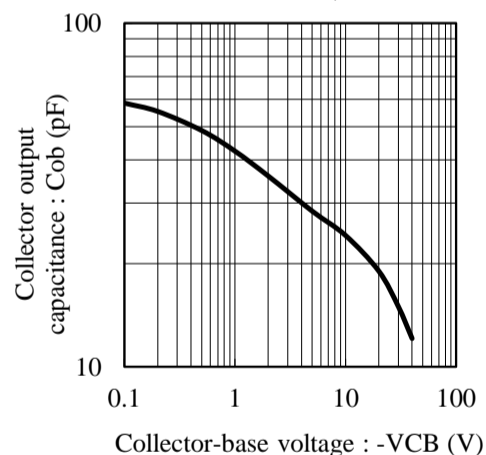


Fig.10 Cib - VEB
at f= 1MHz, Ta= 25C

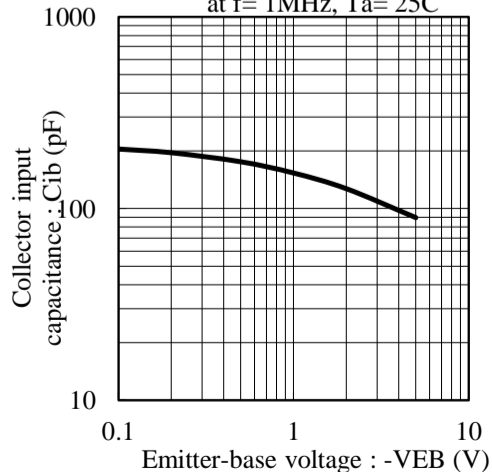


Fig.X RCE(sat) - IC
at IC/IB=20, Ta=25C

