

**Silicon PNP transistor epitaxial type
A5886**
[Applications]

Supply line switching circuits, Battery charger
DC-DC converter, MOSFET driver

[Feature]

Very low collector saturation voltage $V_{CE(sat)} = -375\text{mV}$ (Max.) at $I_C = -5\text{A}$, $I_B = -0.5\text{A}$

[Absolute maximum ratings ($T_a = 25\text{C}$)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-40	V
Collector-emitter voltage	VCEO	-40	V
Emitter-base voltage	VEBO	-6	V
Collector current (DC)	I_C	-5	A
Collector current (Pulse)	I_C	-10	A
Base current (Pulse)	I_B	-2	A
Junction temperature	T_j	150	C
Storage temperature	T_{stg}	-55 to 150	C

[Electrical characteristics ($T_a = 25\text{C}$)]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	-40	-	-	V	$I_C = -100\mu\text{A}$, $I_E = 0\text{A}$
Collector-emitter breakdown voltage	BVCEO	-40	-	-	V	$I_C = -10\text{mA}$, $I_B = 0\text{A}$
Emitter-base breakdown voltage	BVEBO	-6	-	-	V	$I_E = -100\mu\text{A}$, $I_C = 0\text{A}$
Collector cut-off current	I_{CBO}	-	-	-100	nA	$V_{CB} = -30\text{V}$, $I_E = 0\text{A}$
Emitter cut-off current	I_{EBO}	-	-	-100	nA	$V_{EB} = -5\text{V}$, $I_C = 0\text{A}$
DC current gain 1	h_{FE1}	250	350	-	-	$V_{CE} = -2\text{V}$, $I_C = -0.5\text{A}$
DC current gain 2	h_{FE2}	200	300	-	-	$V_{CE} = -2\text{V}$, $I_C = -1\text{A}$
DC current gain 3	h_{FE3}	150	250	-	-	$V_{CE} = -2\text{V}$, $I_C = -2\text{A}$
DC current gain 4	h_{FE4}	50	150	-	-	$V_{CE} = -2\text{V}$, $I_C = -5\text{A}$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-80	-120	mV	$I_C = -0.5\text{A}$, $I_B = -5\text{mA}$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-120	-170	mV	$I_C = -1\text{A}$, $I_B = -10\text{mA}$
Collector-emitter saturation voltage 3	$V_{CE(sat)3}$	-	-110	-160	mV	$I_C = -2\text{A}$, $I_B = -0.2\text{A}$
Collector-emitter saturation voltage 4	$V_{CE(sat)4}$	-	-250	-375	mV	$I_C = -5\text{A}$, $I_B = -0.5\text{A}$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	-1.3	V	$I_C = -5\text{A}$, $I_B = -0.5\text{A}$
Base-emitter on voltage	$V_{BE(on)}$	-	-0.8	-1.25	V	$V_{CE} = -2\text{V}$, $I_C = -2\text{A}$
Transition frequency	f_T	60	120	-	MHz	$V_{CE} = -10\text{V}$, $I_E = 0.1\text{A}$
Collector output capacitance	C_{ob}	-	90	105	pF	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}$, $I_E = 0\text{A}$

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. A5886-20081014

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

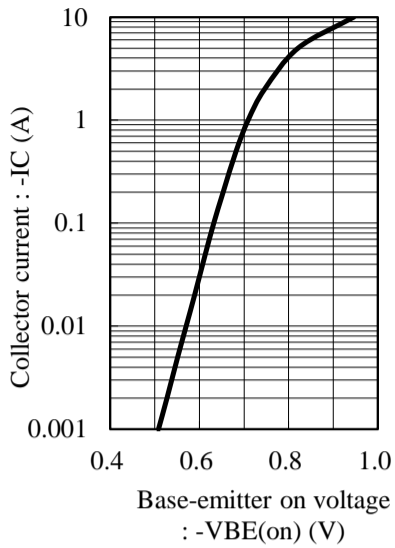


Fig.2 hFE - IC
at VCE= -2V, Ta= 25C

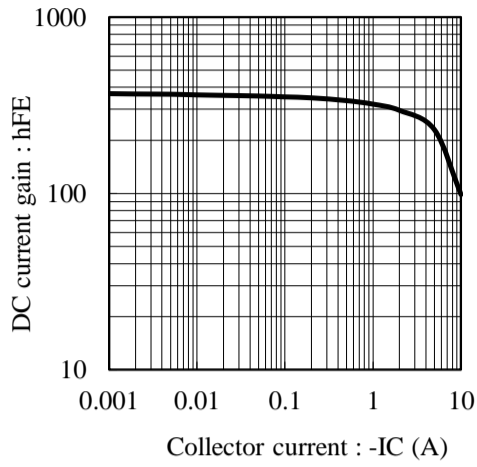


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

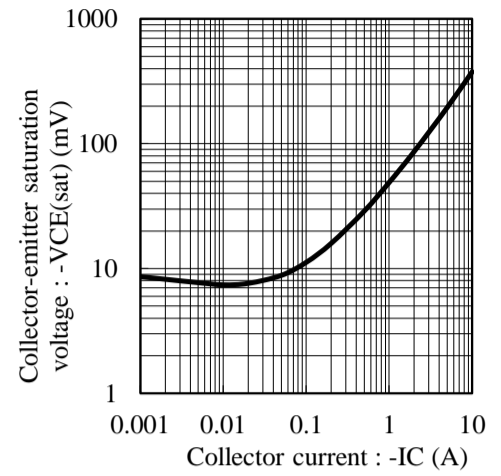


Fig.4 VCE(sat) - IC
at IC/IB= 100, Ta= 25C

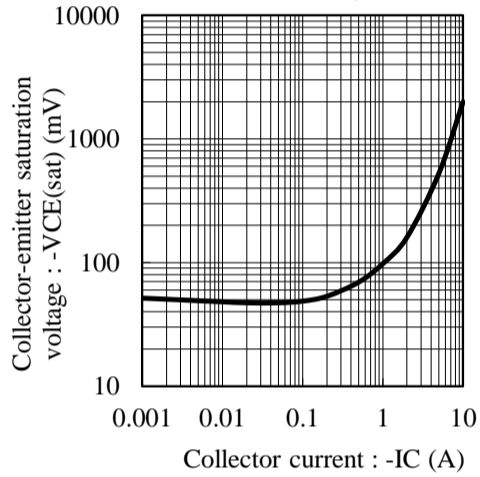


Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

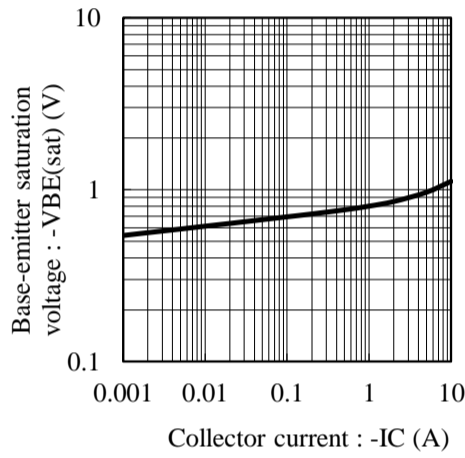


Fig.6 fT - IE
at VCE= -10V, Ta= 25C

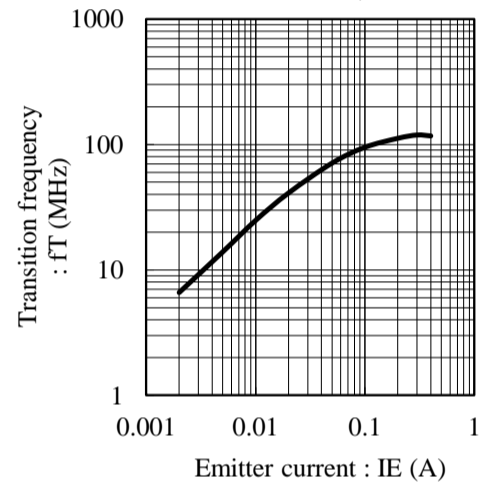


Fig.7 Cob - VCB
at f= 1MHz, Ta= 25C

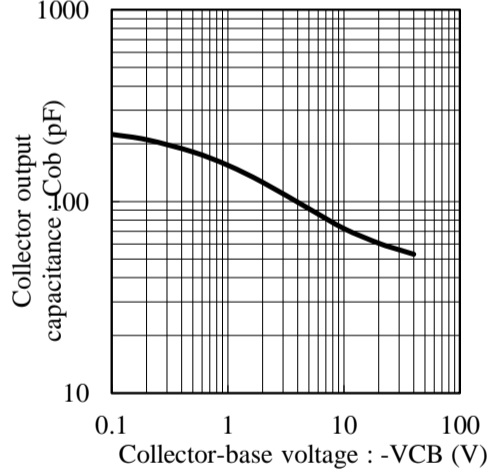


Fig.8 Cib - VEB
at f= 1MHz, Ta= 25C

