

**Silicon NPN transistor epitaxial type
C5917**

[Applications]

High voltage, High current

[Feature]

High voltage $V_{CEO} = 200V$

High current gain characteristic

Low collector-emitter saturation voltage $V_{CE(sat)} = 0.18V(\text{Max.})$ at $I_C/I_B = 1A/50mA$

[Absolute maximum ratings ($T_a = 25^\circ C$)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	300	V
Collector-emitter voltage	VCEO	200	V
Emitter-base voltage	VEBO	7	V
Collector current	IC	2	A
Junction temperature	Tj	150	C
Storage temperature	Tstg	-55 to 150	C

[Electrical characteristics ($T_a = 25^\circ C$)]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	300	-	-	V	$I_C = 50\mu A$
Collector-emitter breakdown voltage	BVCEO	200	-	-	V	$I_C = 1mA$
Emitter-base breakdown voltage	BVEBO	7	-	-	V	$I_E = 50\mu A$
Collector cut-off current	ICBO	-	-	50	nA	$V_{CB} = 300V$
Emitter cut-off current	IEBO	-	-	50	nA	$V_{EB} = 6V$
Collector cut-off current	ICES	-	-	50	nA	$V_{CES} = 300V$
DC current gain 1	hFE 1	190	-	450	-	$V_{CE} = 5V, I_C = 100mA$
DC current gain 2	hFE 2	180	-	-	-	$V_{CE} = 5V, I_C = 500mA$
DC current gain 3	hFE 3	50	-	-	-	$V_{CE} = 1V, I_C = 700mA$
DC current gain 4	hFE 4	55	-	-	-	$V_{CE} = 5V, I_C = 1A$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	0.11	V	$I_C = 500mA, I_B = 50mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	0.4	V	$I_C = 700mA, I_B = 14mA$
Collector-emitter saturation voltage 3	$V_{CE(sat)3}$	-	-	0.18	V	$I_C = 1A, I_B = 50mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	0.85	V	$I_C = 500mA, I_B = 50mA$
Base-emitter on voltage	$V_{BE(on)}$	0.5	-	0.73	V	$V_{CE} = 5V, I_C = 5mA$
Transition frequency	fT	-	90	-	MHz	$V_{CE} = 10V, I_E = -100mA$
Collector output capacitance	Cob	-	16	-	pF	$V_{CB} = 10V, f = 1MHz, I_E = 0A$

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 VBE(on) - IC
at VCE= 5V, Ta= 25C

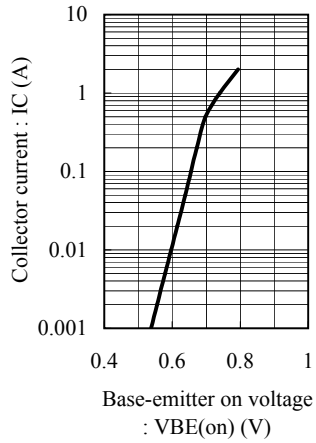


Fig.2 hFE - IC
at VCE= 1V, Ta= 25C

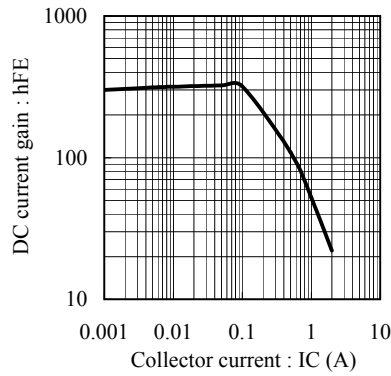


Fig.3 hFE - IC
at VCE= 5V, Ta= 25C

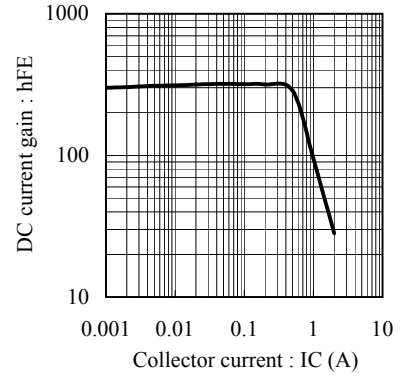


Fig.4 VCE(sat) - IC
at IC/IB= 50, Ta= 25C

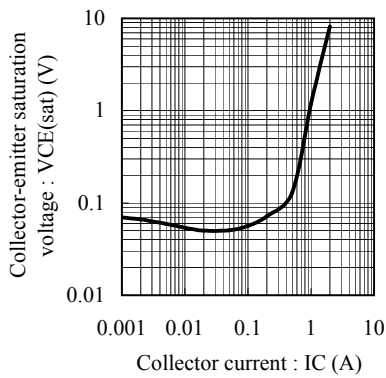


Fig.5 VCE(sat) - IC
at IC/IB= 20, Ta= 25C

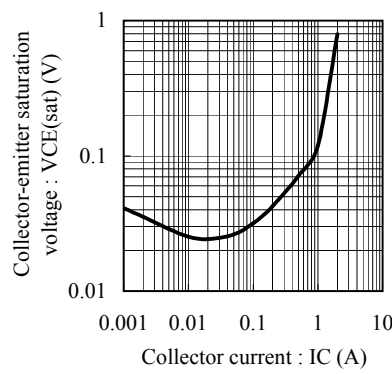


Fig.6 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

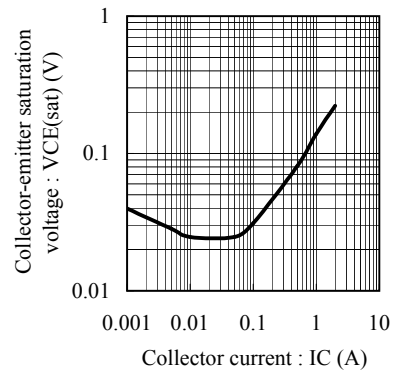


Fig.7 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

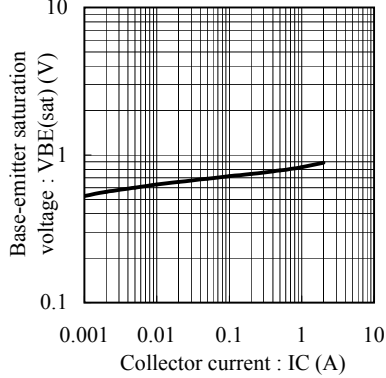


Fig.8 fT - IE
at VCE= 10V, Ta= 25C

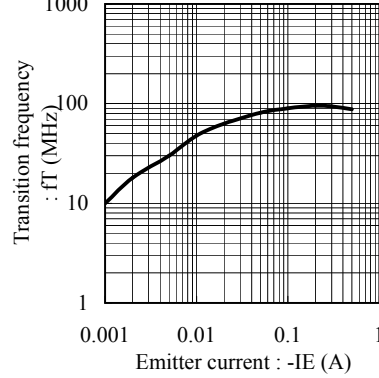


Fig.9 Cob - VCB
at f= 1MHz, Ta= 25C

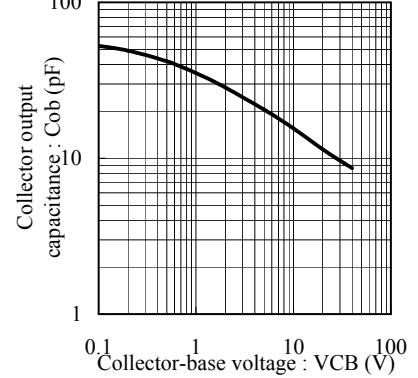


Fig.10 Cib - VEB
at f= 1MHz, Ta= 25C

