

**Silicon NPN transistor epitaxial type
C5987**
[Applications]

High current amplifier

[Feature]

Collector current IC= 6A

Very low collector saturation voltage VCE(sat)= 400mV (Max.) at IC= 5A, IB= 500mA

Excellent gain characteristics specified up to 10 amperes

PNP complementary pair with A5987

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	200	V
Collector-emitter voltage	VCEO	100	V
Emitter-base voltage	VEBO	6	V
Collector current (DC)	IC	6	A
Collector current (Pulse)	ICP	10	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	200	220	-	V	IC= 100uA
Collector-emitter breakdown voltage	BVCEO	100	110	-	V	IC= 10mA
Emitter-base breakdown voltage	BVEBO	6	8	-	V	IE= 100uA
Collector cut-off current	ICBO	-	-	10	nA	VCB= 150V
Emitter cut-off current	IEBO	-	-	10	nA	VEB= 6V
DC current gain 1	hFE 1	100	-	-	-	VCE= 2V, IC= 10mA
DC current gain 2	hFE 2	120	200	300	-	VCE= 2V, IC= 2A
DC current gain 3	hFE 3	50	100	-	-	VCE= 2V, IC= 4A
DC current gain 4	hFE 4	-	30	-	-	VCE= 2V, IC= 10A
Collector-emitter saturation voltage 1	VCE(sat) 1	-	22	50	mV	IC= 100mA, IB= 5mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	135	170	mV	IC= 2A, IB= 100mA
Collector-emitter saturation voltage 3	VCE(sat) 3	-	300	400	mV	IC= 5A, IB= 250mA
Base-emitter saturation voltage	VBE(sat)	-	1	1.2	V	IC= 5A, IB= 250mA
Base-emitter on voltage	VBE(on)	-	1.1	1.2	V	VCE= 2V, IC= 5A
Transition frequency	fT	-	190	-	MHz	VCE= 10V, IE= -100mA
Collector output capacitance	Cob	-	38	-	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. C5987-20070213

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

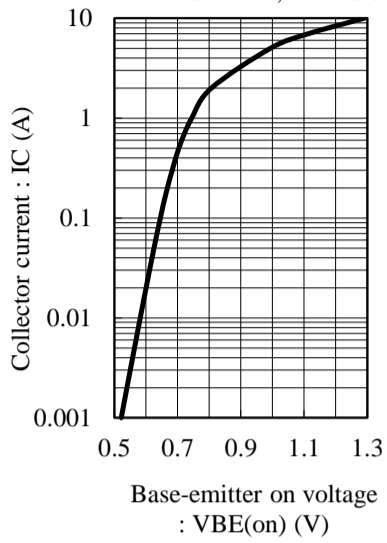


Fig.2 hFE - IC
at VCE= 2V, Ta= 25C

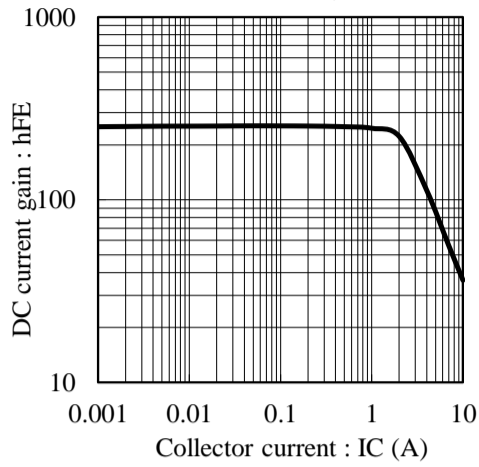


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

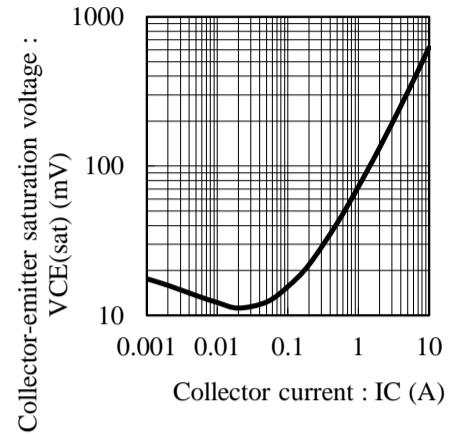


Fig.4 VCE(sat) - IC
at IC/IB= 20, Ta= 25C

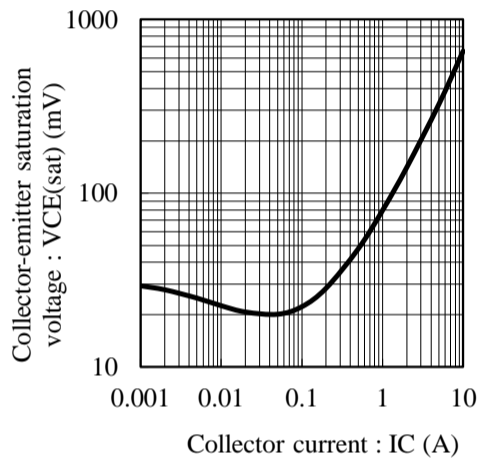


Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

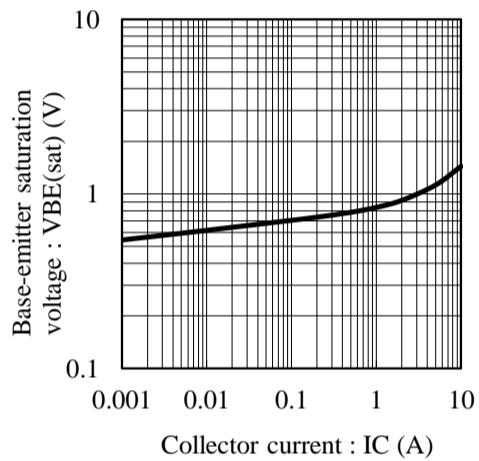


Fig.6 fT - IE
at VCE= 10V, Ta= 25C

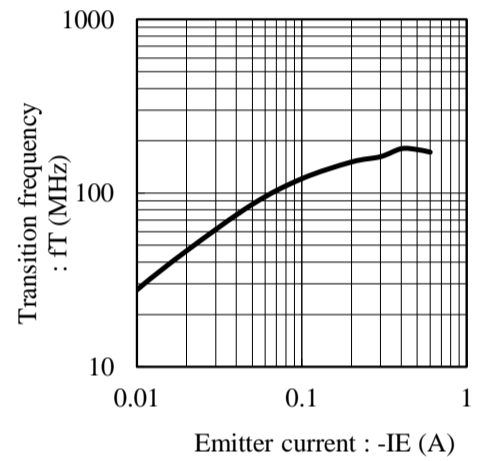


Fig.7 Cob - VCB
at f= 1MHz, Ta= 25C

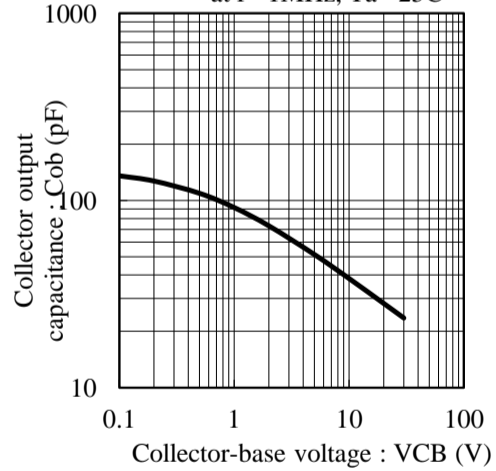


Fig.8 Cib - VEB
at f= 1MHz, Ta= 25C

