

Silicon NPN transistor epitaxial type C5965

[Applications]

General purpose amplifier

[Feature]

Very low collector saturation voltage $V_{CE(sat)} = 0.7V$ (Max.) at $I_C = 150mA$, $I_B = 15mA$

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	160	V
Collector-emitter voltage	VCEO	140	V
Emitter-base voltage	VEBO	5	V
Collector current	IC	1	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	160	-	-	V	$I_C = 100\mu A$, $I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	140	-	-	V	$I_C = 10mA$, $I_B = 0A$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 100\mu A$, $I_C = 0A$
Collector cut-off current	ICBO	-	-	100	nA	$V_{CB} = 140V$, $I_E = 0A$
Emitter cut-off current	IEBO	-	-	100	nA	$V_{EB} = 4V$, $I_C = 0A$
DC current gain 1	hFE 1	100	-	300	-	$V_{CE} = 10V$, $I_C = 150mA$
DC current gain 2	hFE 2	-	10	-	-	$V_{CE} = 10V$, $I_C = 1A$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.7	V	$I_C = 150mA$, $I_B = 15mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.1	V	$I_C = 150mA$, $I_B = 15mA$
Transition frequency	fT	100	-	-	MHz	$V_{CE} = 10V$, $I_E = -50mA$
Collector output capacitance	Cob	-	-	15	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.

No. C5965-20070213

Fig.1 IC - VBE(on)
at VCE= 10V, Ta= 25C

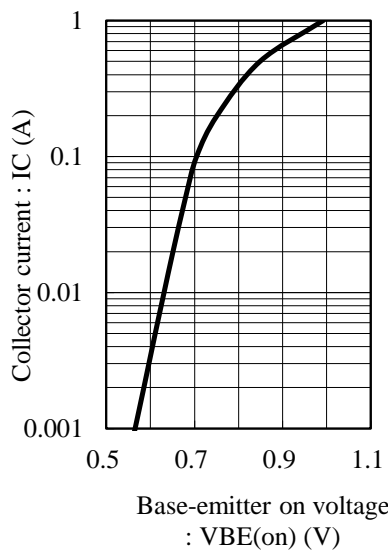


Fig.2 hFE - IC
at VCE= 10V, Ta= 25C

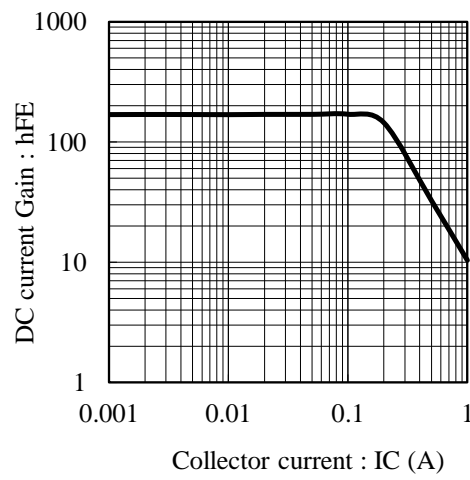


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

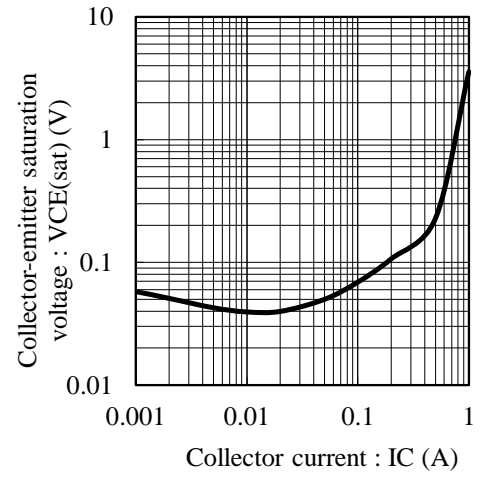


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

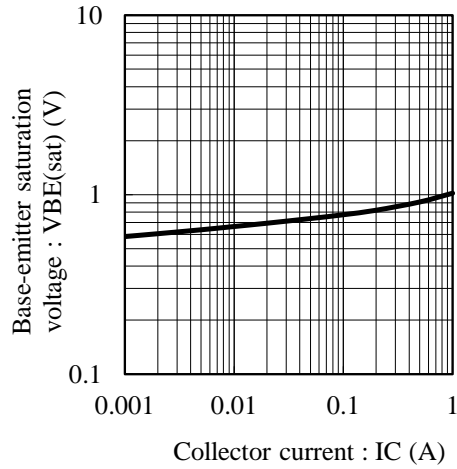


Fig.5 fT - IE
at VCE= 10V, Ta= 25C

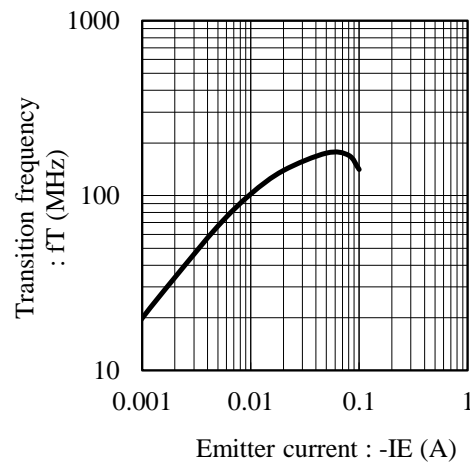


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

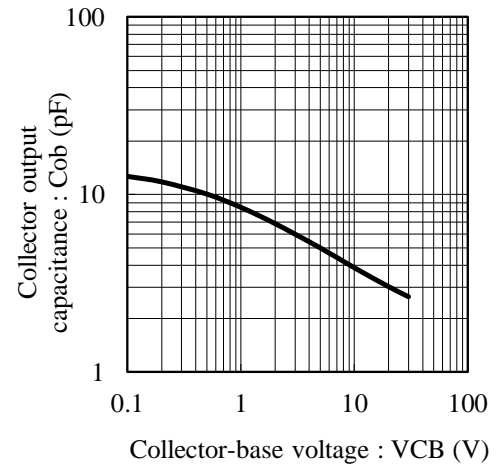


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

