

**Silicon NPN transistor epitaxial type
6C333**
[Applications]

General purpose

[Feature]

 Low collector saturation voltage $V_{CE(sat)} = 0.3V(\text{Max.})$ at $I_C = 100\text{mA}$, $I_B = 10\text{mA}$
[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	60	V
Collector-emitter voltage	VCEO	50	V
Emitter-base voltage	VEBO	5	V
Collector current	IC	200	mA
Junction temperature	Tj	125	C
Storage temperature	Tstg	-55 to 125	C

[Electrical characteristics (Ta=25C)]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	60	-	-	V	$I_C = 50\mu\text{A}$, $I_E = 0\text{A}$
Collector-emitter breakdown voltage	BVCEO	50	-	-	V	$I_C = 1\text{mA}$, $I_B = 0\text{A}$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 50\mu\text{A}$, $I_C = 0\text{A}$
Collector cut-off current	ICBO	-	-	100	nA	VCB= 60V
Emitter cut-off current	IEBO	-	-	100	nA	VEB= 5V
DC current gain	hFE	63	-	-	-	VCE= 6V, IC= 1mA
Collector-emitter saturation voltage	VCE(sat)	-	-	0.3	V	$I_C = 100\text{mA}$, $I_B = 10\text{mA}$
Transition frequency	fT	-	130	-	MHz	VCE= 12V, IE= -2mA
Collector output capacitance	Cob	-	2	3.5	pF	VCB= 12V, 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. 6C333-20190906

Fig.1 IC - VBE(on)
at VCE= 6V, Ta= 25C

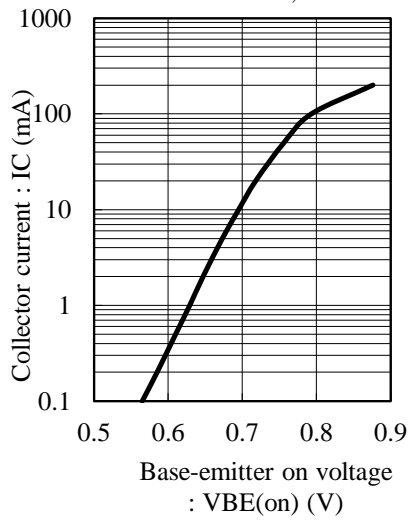


Fig.2 hFE - IC
at VCE= 6V, Ta= 25C

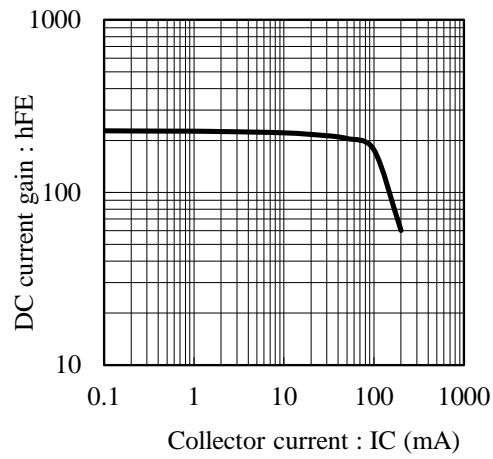


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

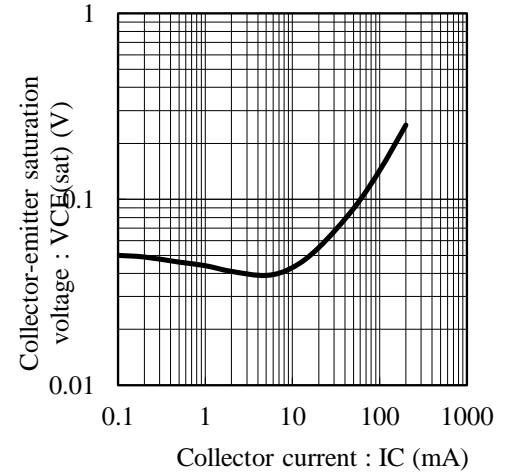


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

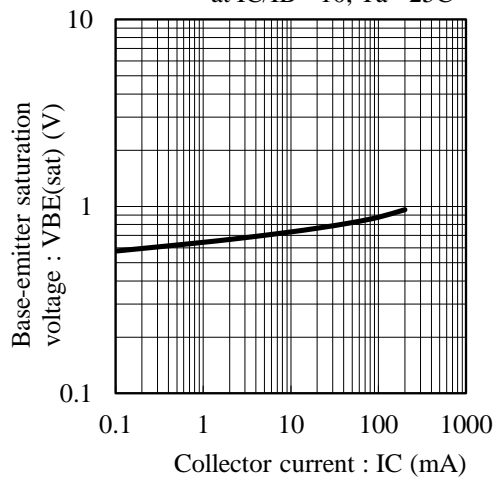


Fig.5 fT - IE
at VCE= 12V, Ta= 25C

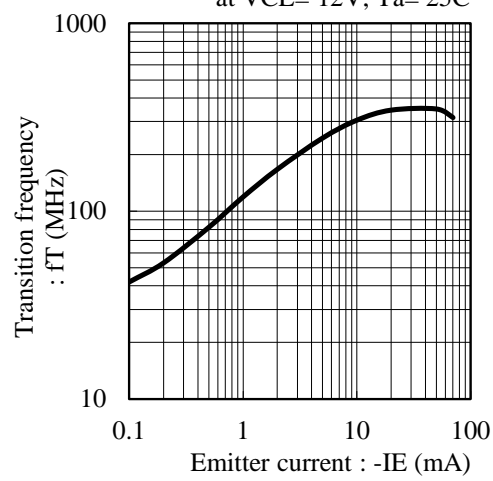


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

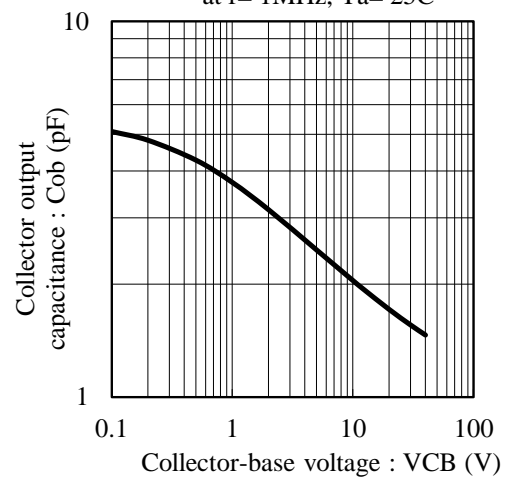


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

