Silicon NPN transistor epitaxial type
C5953

[Applications]

General purpose amplifier
High voltage switching (such as telephone)

[Feature]

High voltage VCEO= 160V
Collector current IC= 0.6A
Low collector saturation voltage VCE(sat)= 0.2V (Max.) at IC= 50mA, IB= 5mA

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	180	V
Collector-emitter voltage	VCEO	160	V
Emitter-base voltage	VEBO	6	V
Collector current	IC	600	mA
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	180	-	-	V	IC= 100uA, IE= 0A
Collector-emitter breakdown voltage	BVCEO	160	-	-	V	IC= 1mA, IB= 0A
Emitter-base breakdown voltage	BVEBO	6	-	-	V	IE= 10uA, IC= 0A
Collector cut-off current	ICBO	-	-	50	nA	VCB= 120V, IE= 0A
Emitter cut-off current	IEBO	-	-	50	nA	VEB= 4V, IC= 0A
DC current gain 1	hFE 1	72	-	-	-	VCE= 5V, IC= 1mA
DC current gain 2	hFE 2	72	-	330	-	VCE= 5V, IC= 10mA
DC current gain 3	hFE 3	27	-	-	-	VCE= 5V, IC= 50mA
Collector-emitter saturation voltage 1	VCE(sat) 1	-	-	0.15	V	IC= 10mA, IB= 1mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	-	0.2	V	IC= 50mA, IB= 5mA
Base-emitter saturation voltage 1	VBE(sat) 1	-	-	1.0	V	IC= 10mA, IB= 1mA
Base-emitter saturation voltage 2	VBE(sat) 2	-	-	1.0	V	IC= 50mA, IB= 5mA
Transition frequency	fT	100	-	300	MHz	VCE= 10V, IE=-10mA
Collector output capacitance	Cob	-	-	6	pF	VCB= 10V, f = 1MHz, IE= 0A
Collector input capacitance	Cib	-	-	20	pF	VEB= 0.5V, f = 1MHz, IC= 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 IC - VBE(on)
at VCE= 5V,Ta= 25C

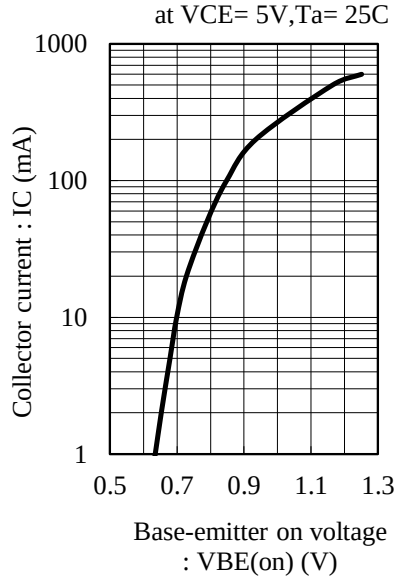

Fig.2 hFE - IC
at VCE= 5V, Ta= 25C

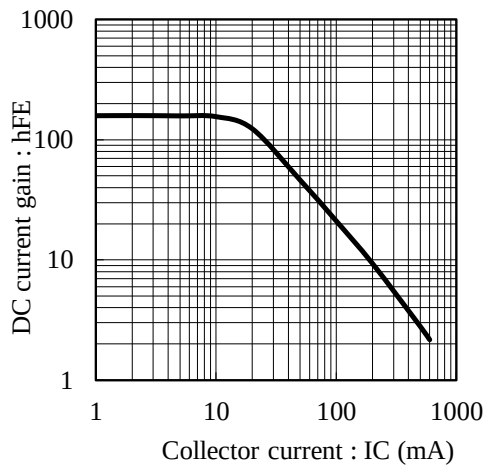

Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

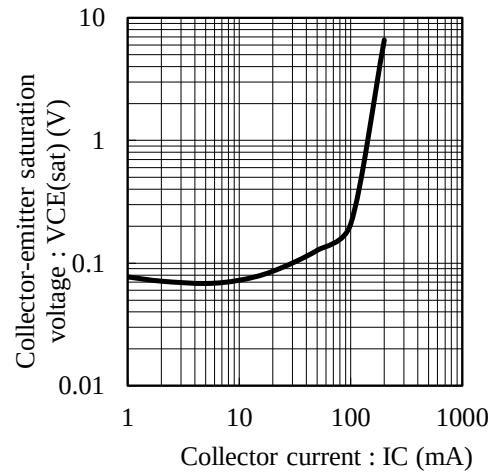

Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

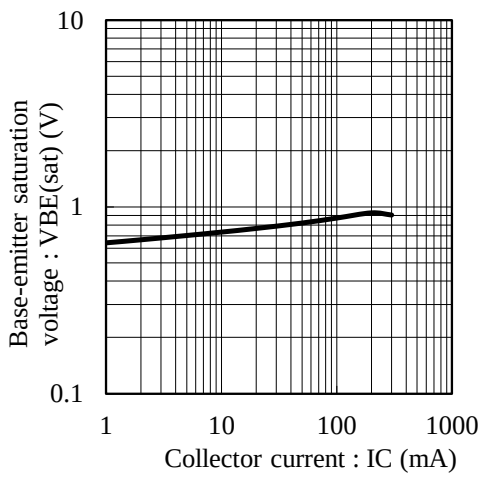

Fig.5 fT - IE
at VCE= 10V, Ta= 25C

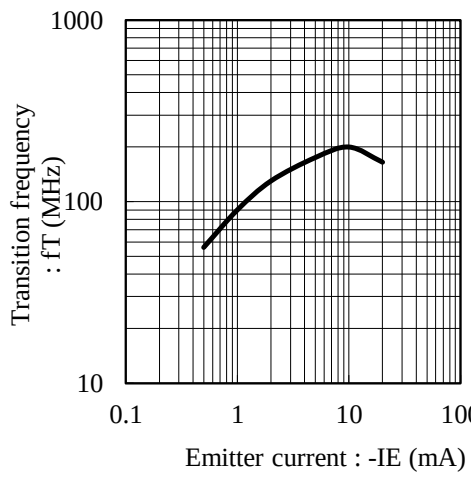

Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

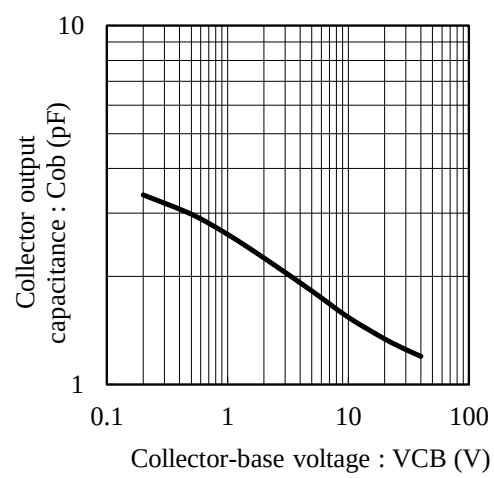

Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C