Silicon NPN transistor triple diffusion type
CP884

[Applications]
High voltage switching and amplifier

[Feature]
High voltage VCEO= 500V
Excellent hFE characteristics up to IC= 150mA
Low collector saturation voltage VCE(sat)= 0.5V (Max.) at IC= 50mA, IB= 10mA

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	500	V
Collector-emitter voltage	VCEO	500	V
Emitter-base voltage	VEBO	5	V
Collector current	IC	150	mA
Collector current (pulse)	ICP	500	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	500	-	-	V	IC= 100uA
Collector-emitter breakdown voltage	BVCEO	500	-	-	V	IC= 10mA
Emitter-base breakdown voltage	BVEBO	5	-	-	V	IE= 100uA
Collector cut-off current	ICBO	-	-	100	nA	VCB= 500V
Collector cut-off current	ICES	-	-	100	nA	VCES= 500V
Emitter cut-off current	IEBO	-	-	100	nA	VEB= 5V
DC current gain 1	hFE 1	150	-	300	-	VCE= 10V, IC= 1mA
DC current gain 2	hFE 2	80	-	300	-	VCE= 10V, IC= 50mA
DC current gain 3	hFE 3		15	-	-	VCE= 10V, IC= 100mA
Collector-emitter saturation voltage 1	VCE(sat) 1	-	-	0.2	V	IC= 20mA, IB= 2mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	-	0.5	V	IC= 50mA, IB= 10mA
Base-emitter saturation voltage	VBE(sat)	-	-	0.9	V	IC= 50mA, IB= 10mA
Base-emitter on voltage	VBE(on)	-	-	0.9	V	VCE= 10V, IC= 50mA
Transition frequency	fT	-	50	-	MHz	VCE= 20V, IE= -10mA
Collector output capacitance	Cob	-	-	8	pF	VCB= 20V, f = 1MHz, IE= 0A
Turn on time	ton	-	110	-	ns	VCE= 100V, IC= 50mA
Turn off time	toff	-	1500	-	ns	IB1= 5mA, IB2= -10mA

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= 10V, Ta= 25C

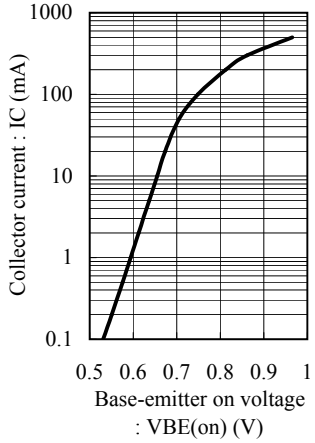

Fig.2 hFE - IC
at VCE= 10V, Ta= 25C

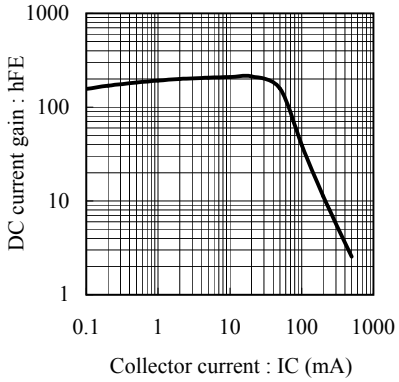

Fig.3 VCE(sat) - IC
at IC/IB= 5, Ta= 25C

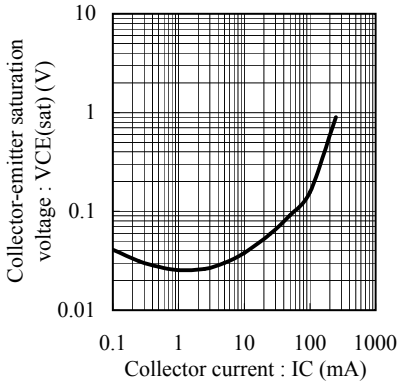

Fig.4 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

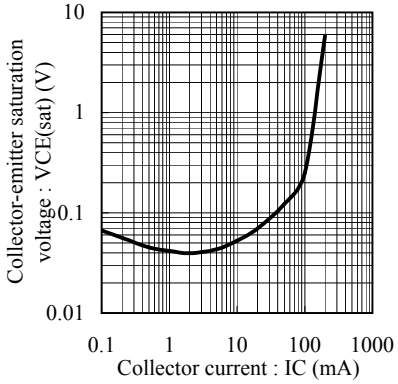

Fig.5 VBE(sat) - IC
at IC/IB= 5, Ta= 25C

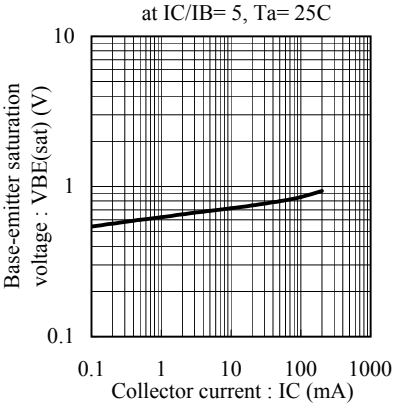

Fig.6 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

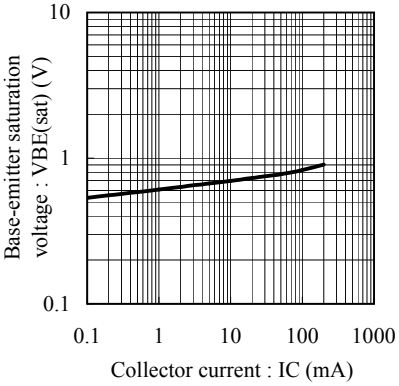

Fig.7 fT - IE
at VCE= 20V, Ta= 25C

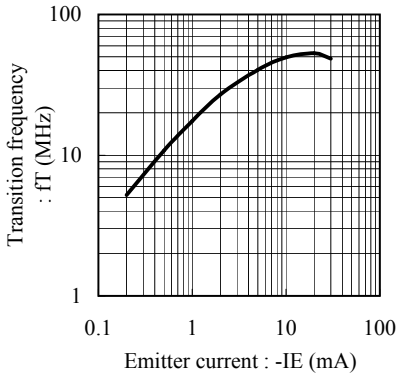

Fig.8 Cob - VCB
at f= 1MHz, Ta= 25C

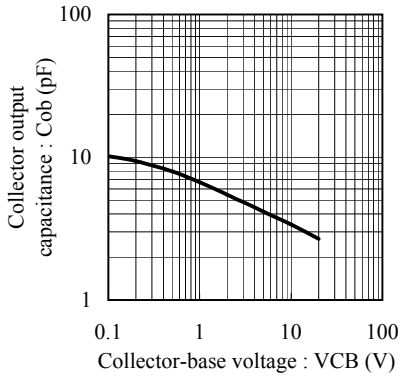

Fig.9 Cib - VEB
at f= 1MHz, Ta= 25C