Silicon NPN transistor epitaxial type
D5023

[Applications]
General purpose

[Feature]
Low collector saturation voltage VCE(sat)= 0.8V(Max.) at IC= 2A, IB= 0.2A

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	40	V
Collector-emitter voltage	VCEO	32	V
Emitter-base voltage	VEBO	5	V
Collector current	IC	2	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	40	-	-	V	IC= 50uA, IE= 0A
Collector-emitter breakdown voltage	BVCEO	32	-	-	V	IC= 1mA, IB= 0A
Emitter-base breakdown voltage	BVEBO	5	-	-	V	IE= 50uA, IC= 0A
Collector cut-off current	ICBO	-	-	1	uA	VCB= 20V
Emitter cut-off current	IEBO	-	-	1	uA	VEB= 4V
DC current gain	hFE	82	-	360	-	VCE= 3V, IC= 0.5A
Collector-emitter saturation voltage	VCE(sat)	-	-	0.8	V	IC= 2A, IB= 0.2A
Transition frequency	f T	-	100	-	MHz	VCE= 5V, IE= -0.5A
Collector output capacitance	Cob	-	30	-	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.

Fig.1 IC - VBE(on)
at VCE= 3V, Ta= 25C

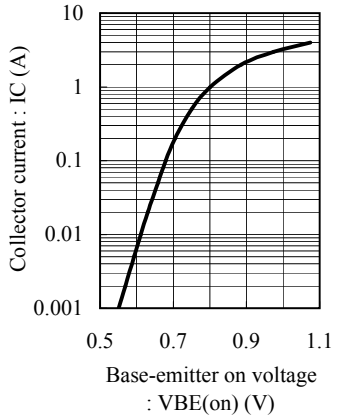

Fig.2 hFE - IC
at VCE= 3V, Ta= 25C

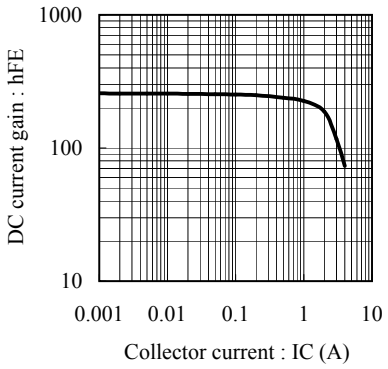

Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

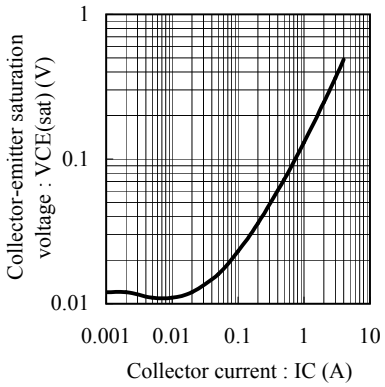

Fig.4 VCE(sat) - IC
at IC/IB= 17.8, Ta= 25C

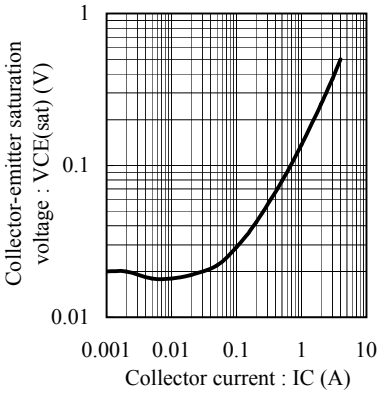

Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

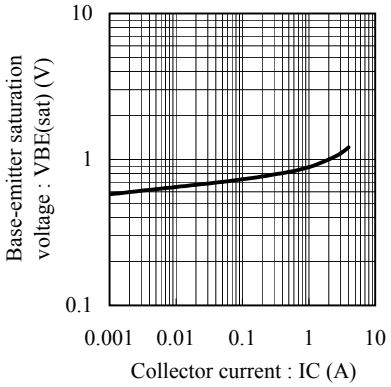

Fig.6 fT - IE
at VCE= 5V, Ta= 25C

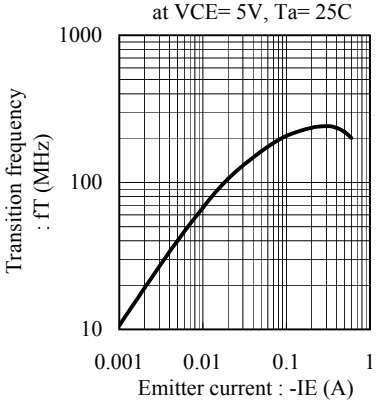

Fig.7 Cob - VCB
at f= 1MHz, Ta= 25C

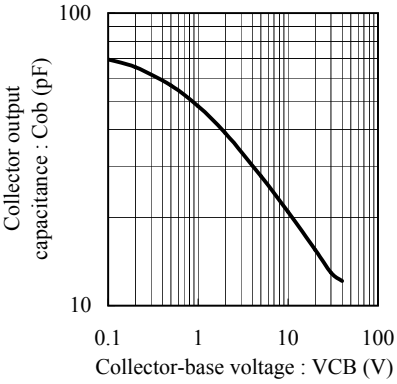

Fig.8 Cib - VEB
at f= 1MHz, Ta= 25C