

Silicon NPN transistor epitaxial type C5836

[Applications]

General purpose transistors
Low frequency signal amplifier

[Feature]

High break-down voltage $BV_{CEO} = 50V$
 High level collector current $I_C = 500mA$
 Low collector saturation voltage $V_{CE(sat)} = 0.11V(Typ.)$ at $I_C = 150mA, I_B = 15mA$
 Complimentary pair with phenitec P/N A5836

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	50	V
Collector-emitter voltage	VCEO	50	V
Emitter-base voltage	VEBO	5	V
Collector current	IC	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	50	-	-	V	$I_C = 10\mu A, I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	50	-	-	V	$I_C = 1mA, I_B = 0A$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 10\mu A, I_C = 0A$
Collector cut-off current	ICBO	-	-	0.5	uA	$V_{CB} = 20V, I_E = 0A$
Emitter cut-off current	IEBO	-	-	0.5	uA	$V_{EB} = 4V, I_E = 0A$
DC current gain 1	hFE1	68	-	330	-	$V_{CE} = 3V, I_C = 10mA$
DC current gain 2 *	hFE2	10	-	-	-	$V_{CE} = 3V, I_C = 500mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.11	0.5	V	$I_C = 150mA, I_B = 15mA$
Base-emitter on voltage	$V_{BE(on)}$	-	0.64	-	V	$V_{CE} = 3V, I_C = 10mA$
Transition frequency	fT	-	280	-	MHz	$V_{CE} = 5V, I_E = -50mA$
Collector output capacitance	Cob	-	5	12	pF	$V_{CB} = 10V, f = 1MHz, I_E = 0A$

* Pulse

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. C5836-20180808

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

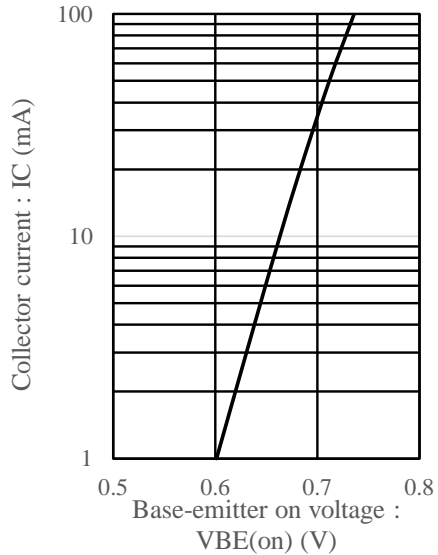


Fig.2 hFE - IC
at VCE= -3V, Ta= 25C

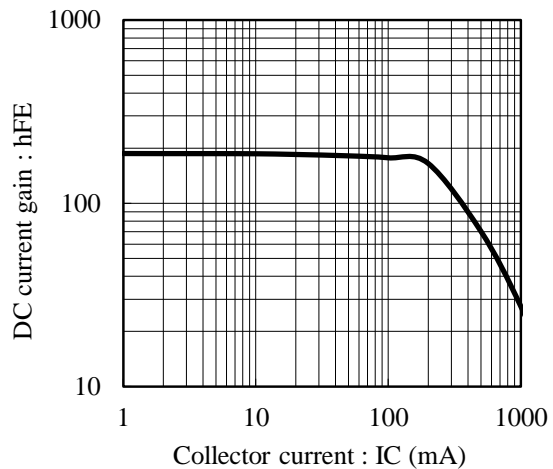


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

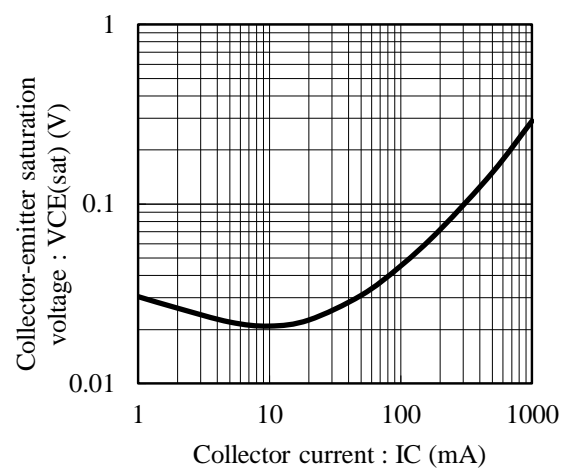


Fig.4 fT - IE
at VCE= 5V, Ta= 25C

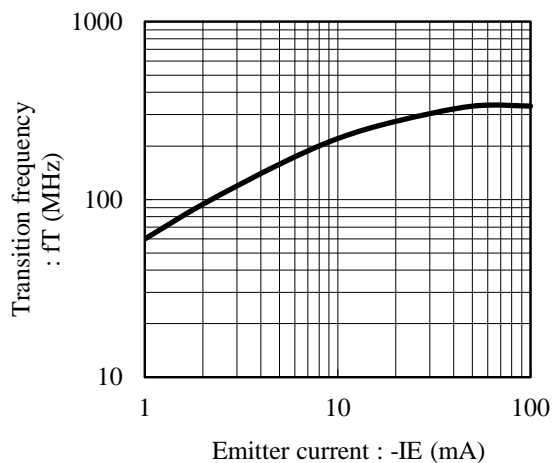


Fig.5 Cob - VCB
at f= 1MHz, Ta= 25C

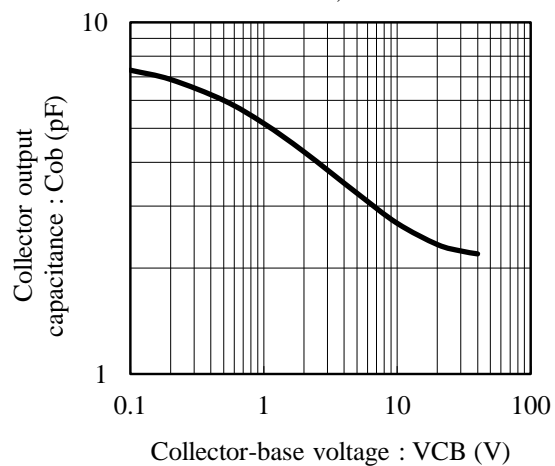


Fig.6 Cib - VEB
at f= 1MHz, Ta= 25C

