

**Silicon NPN transistor epitaxial type**  
**C5887**

**[ Applications ]**

General purpose amplifier  
For small surface mount package built-in with shrinked die

**[ Feature ]**

High collector-emitter breakdown voltage  $BV_{CEO}= 50V$   
High collector current  $I_C= 100mA$   
Excellent  $h_{FE}$  linearity

**[ 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	100	mA
Base current	IB	30	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	60	-	-	V	$I_C= 10\mu A, I_E= 0A$
Collector-emitter breakdown voltage	BVCEO	50	-	-	V	$I_C= 100\mu A, I_B= 0A$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E= 10\mu A, I_C= 0A$
Collector cut-off current	ICBO	-	-	0.1	$\mu A$	$V_{CB}= 60V, I_E= 0A$
Emitter cut-off current	IEBO	-	-	0.1	$\mu A$	$V_{EB}= 5V, I_E= 0A$
DC current gain	$h_{FE}$	120	-	400	-	$V_{CE}= 6V, I_C= 2mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.1	0.25	V	$I_C= 100mA, I_B= 10mA$
Transition frequency	fT	60	-	-	MHz	$V_{CE}= 10V, I_E= -1mA$
Collector output capacitance	Cob	-	1.4	-	pF	$V_{CB}= 10V, f= 1MHz, I_E= 0A$

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 hFE - IC  
at VCE= 1V, Ta= 25C

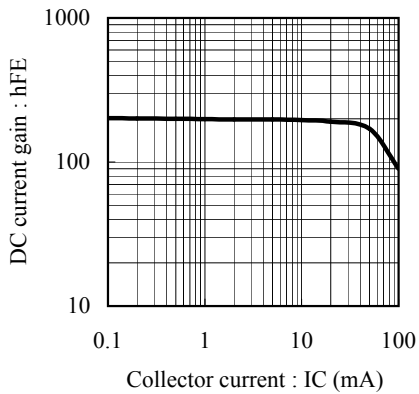


Fig.2 hFE - IC  
at VCE= 2V, Ta= 25C

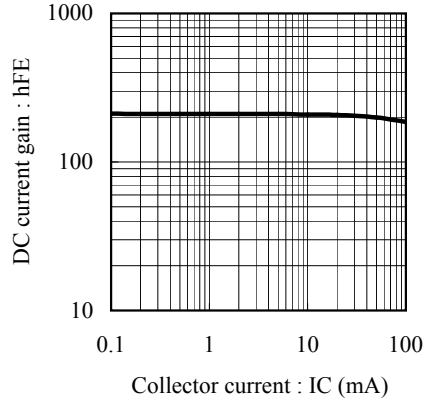


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

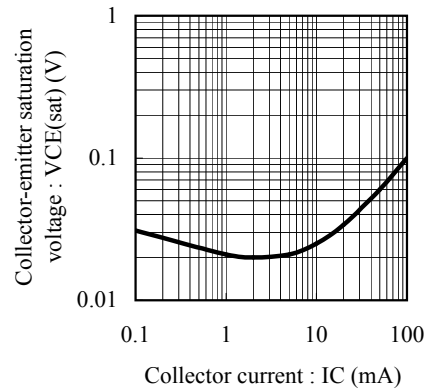


Fig.4 fT - IE  
at VCE= 10V, Ta= 25C

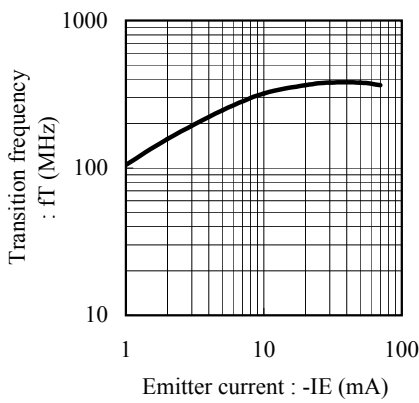


Fig.5 Cob - VCB  
at f= 1MHz, Ta= 25C

