

**Silicon NPN transistor epitaxial type  
C5979**

**[ 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 A5977

**[ Absolute maximum ratings ( $T_a = 25C$ ) ]**

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	$V_{CBO}$	50	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	500	mA
Junction temperature	$T_j$	150	C
Storage temperature	$T_{stg}$	-55 to 150	C

**[ Electrical characteristics ( $T_a = 25C$ ) ]**

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	50	-	-	V	$I_C = 10\mu A, I_E = 0A$
Collector-emitter breakdown voltage	$BV_{CEO}$	50	-	-	V	$I_C = 1mA, I_B = 0A$
Emitter-base breakdown voltage	$BV_{EBO}$	5	-	-	V	$I_E = 10\mu A, I_C = 0A$
Collector cut-off current	$I_{CBO}$	-	-	0.5	$\mu A$	$V_{CB} = 20V, I_E = 0A$
Emitter cut-off current	$I_{EBO}$	-	-	0.5	$\mu A$	$V_{EB} = 4V, I_E = 0A$
DC current gain 1	$h_{FE1}$	68	-	330	-	$V_{CE} = 3V, I_C = 10mA$
DC current gain 2 *	$h_{FE2}$	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	$f_T$	-	280	-	MHz	$V_{CE} = 5V, I_E = -50mA$
Collector output capacitance	$C_{ob}$	-	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. C5979-20051024

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

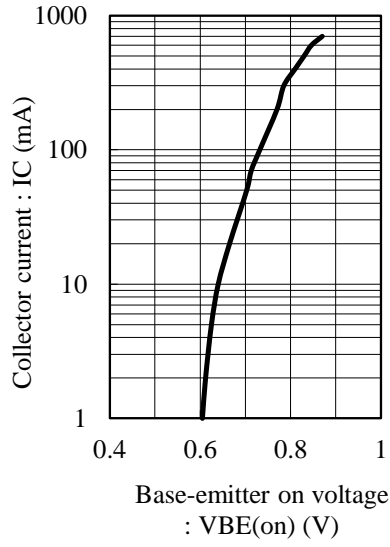


Fig.2 hFE - IC  
at VCE= 3V, Ta= 25C

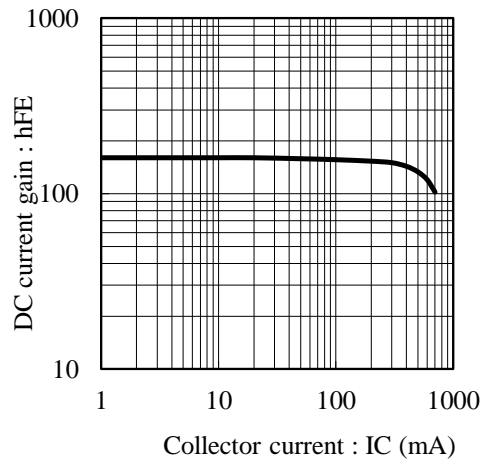


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

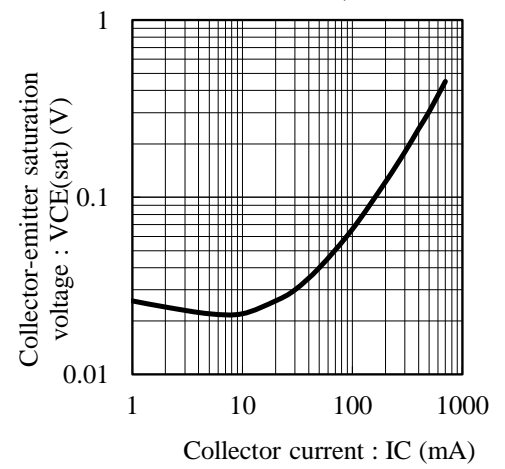


Fig.4 fT - IE  
at VCE= 5V, Ta= 25C

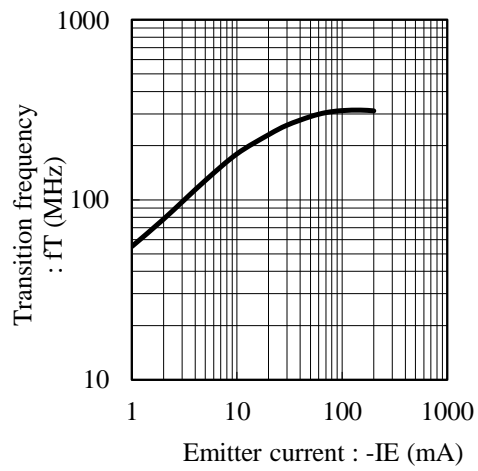


Fig.5 Cob - VCB  
at f= 1MHz, Ta= 25C

