

**Silicon PNP transistor epitaxial type**
**A5977**
**[ Applications ]**

General purpose transistors  
 Low frequency signal amplifire

**[ Feature ]**

Collector-emitter high break-down voltage  $BV_{CEO} = -50V$   
 Emitter-base high break-down voltage  $BVEBO = -8V$   
 High level collector current  $I_C = -500mA$   
 Low collector saturation voltage  $V_{CE(sat)} = -0.13V(Typ.)$  at  $I_C = -150mA, I_B = -15mA$   
 Complementary pair with Phenitec P/N C5979

**[ 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	-8	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	$I_C = -10mA, I_B = 0A$
Emitter-base breakdown voltage	BVEBO	-8	-	-	V	$I_E = -10\mu A, I_C = 0A$
Collector cut-off current	ICBO	-	-	-0.5	$\mu A$	$V_{CB} = -20V, I_E = 0A$
Emitter cut-off current	IEBO	-	-	-0.5	$\mu A$	$V_{EB} = -5V, I_E = 0A$
DC current gain 1	hFE 1	68	-	330	-	$V_{CE} = -3V, I_C = -10mA$
DC current gain 2 *	hFE 2	10	-	-	-	$V_{CE} = -3V, I_C = -500mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.13	-0.55	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	-	230	-	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. A5977-20051028

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

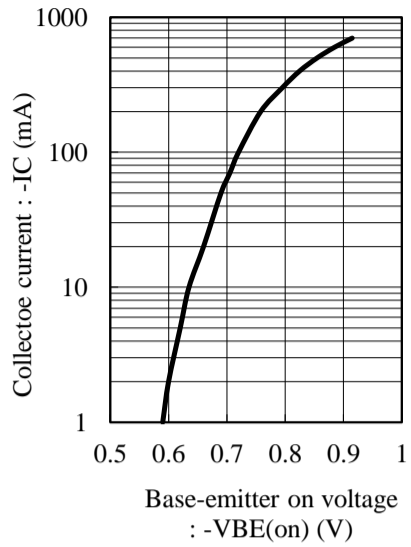


Fig.2 hFE - IC  
at VCE= -3V, Ta= 25C

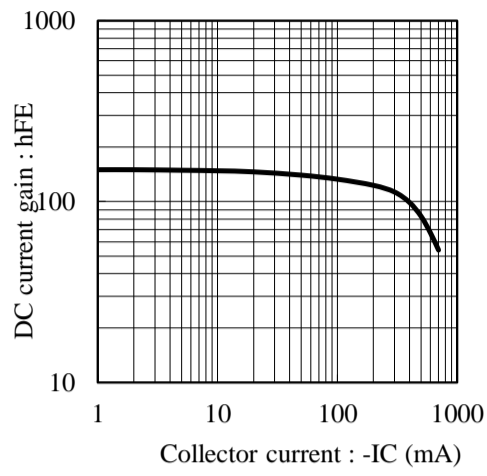


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

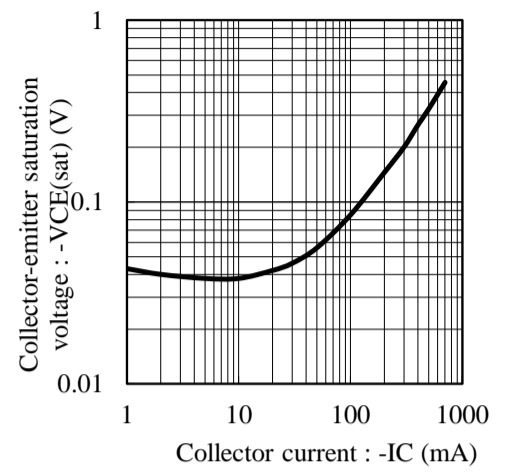


Fig.4 fT - IE  
at VCE= -5V, Ta= 25C

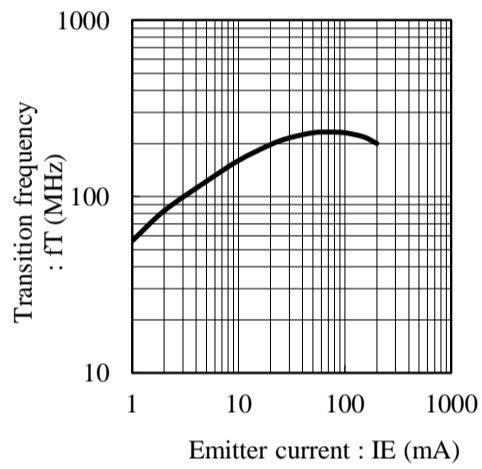


Fig.5 Cob - VCB  
at f= 1MHz, Ta= 25C

