

## Silicon PNP transistor epitaxial type 6A971

### [ Applications ]

High voltage switching and amplifier

### [ Feature ]

High voltage  $V_{CEO} = -300V$

Low collector saturation voltage  $V_{CE(sat)} = -0.5V$  (Max.) at  $I_C = -100mA$ ,  $I_B = -10mA$

NPN complementary pair with CP971

### [ Absolute maximum ratings (Ta= 25C) ]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-300	V
Collector-emitter voltage	VCEO	-300	V
Emitter-base voltage	VEBO	-7	V
Collector current	IC	-300	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	-300	-	-	V	$I_C = -100\mu A$ , $I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	-300	-	-	V	$I_C = -1mA$ , $I_B = 0A$
Emitter-base breakdown voltage	BVEBO	-7	-	-	V	$I_E = -100\mu A$ , $I_C = 0A$
Collector cut-off current	ICBO	-	-	-0.5	$\mu A$	$V_{CB} = -300V$ , $I_E = 0A$
Emitter cut-off current	IEBO	-	-	-0.5	$\mu A$	$V_{EB} = -7V$ , $I_C = 0A$
DC current gain	hFE	60	-	280	-	$V_{CE} = -10V$ , $I_C = -10mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-0.5	V	$I_C = -100mA$ , $I_B = -10mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	-1	V	$I_C = -100mA$ , $I_B = -10mA$
Transition frequency	fT	-	70	-	MHz	$V_{CE} = -10V$ , $I_E = 10mA$
Collector output capacitance	Cob	-	3.5	-	pF	$V_{CB} = -20V$ , $f = 1MHz$ , $I_E = 0A$

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.

No. 6A971-20190903

Fig.1 VBE(on) - IC  
at VCE= -10V, Ta= 25C

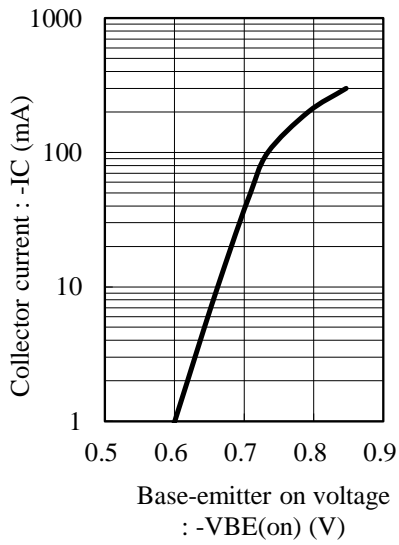


Fig.2 hFE - IC  
at VCE= -10V, Ta= 25C

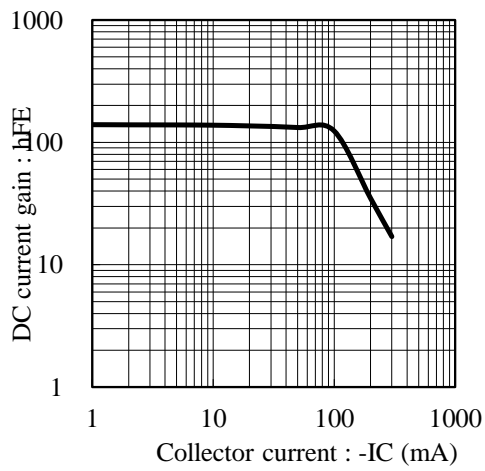


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

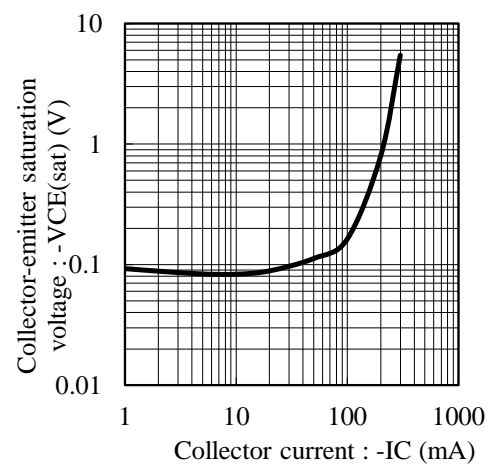


Fig.4 VBE(sat) - IC  
at IC/IB= 10, Ta= 25C

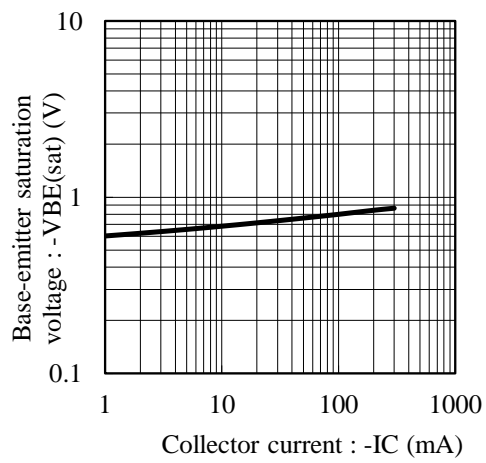


Fig.5 fT - IE  
at VCE= -10V, Ta= 25C

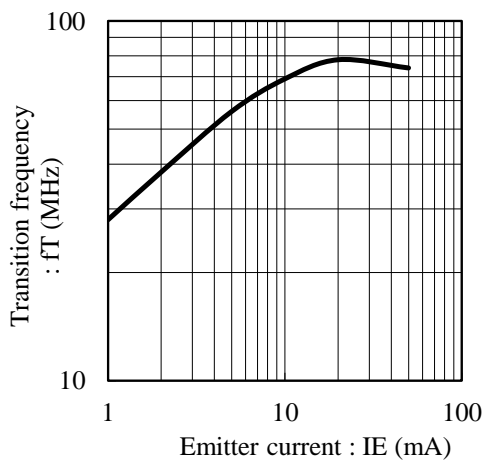


Fig.6 Cob - VCB  
at f= 1MHz, Ta= 25C

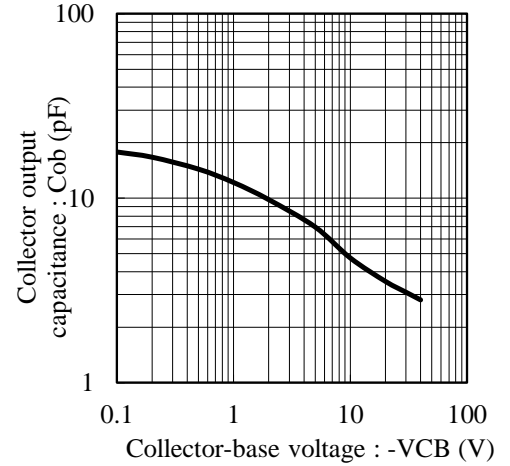


Fig.7 Cib - VEB  
at f= 1MHz, Ta= 25C

