

**Silicon PNP transistor epitaxial type
A5983**
[Applications]

General purpose amplifier
High voltage switching (such as telephone)

[Feature]

High voltage $V_{CEO} = -150V$
Collector current $I_C = -0.6A$
Low collector saturation voltage $V_{CE(sat)} = -0.5V$ (Max.) at $I_C = -50mA$, $I_B = -5mA$
NPN complementary pair with C5983

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	V_{CBO}	-160	V
Collector-emitter voltage	V_{CEO}	-150	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-600	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}	-160	-	-	V	$I_C = -100\mu A$, $I_E = 0A$
Collector-emitter breakdown voltage	BV_{CEO}	-150	-	-	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}	-	-	-50	nA	$V_{CB} = -120V$, $I_E = 0A$
Emitter cut-off current	I_{EBO}	-	-	-50	nA	$V_{EB} = -3V$, $I_C = 0A$
DC current gain 1	h_{FE1}	45	-	-	-	$V_{CE} = -5V$, $I_C = -1mA$
DC current gain 2	h_{FE2}	90	-	270	-	$V_{CE} = -5V$, $I_C = -10mA$
DC current gain 3	h_{FE3}	45	-	-	-	$V_{CE} = -5V$, $I_C = -50mA$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	-0.2	V	$I_C = -10mA$, $I_B = -1mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	-0.5	V	$I_C = -50mA$, $I_B = -5mA$
Base-emitter saturation voltage 1	$V_{BE(sat)1}$	-	-	-1.0	V	$I_C = -10mA$, $I_B = -1mA$
Base-emitter saturation voltage 2	$V_{BE(sat)2}$	-	-	-1.0	V	$I_C = -50mA$, $I_B = -5mA$
Base-emitter on voltage (only A5983)	$V_{BE(on)}$	-	-	-0.77	V	$V_{CE} = -5V$, $I_C = -10mA$
Transition frequency	f_T	100	-	300	MHz	$V_{CE} = -10V$, $I_E = 10mA$
Collector output capacitance	C_{ob}	-	-	6	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 IC - VBE(on)
at VCE= -5V, Ta= 25C

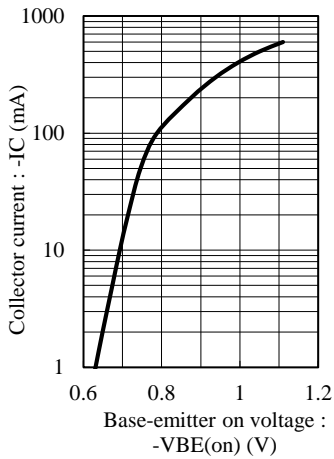


Fig.2 hFE - IC
at VCE= -5V, Ta= 25C

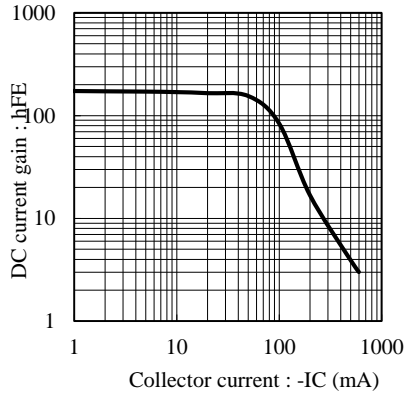


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

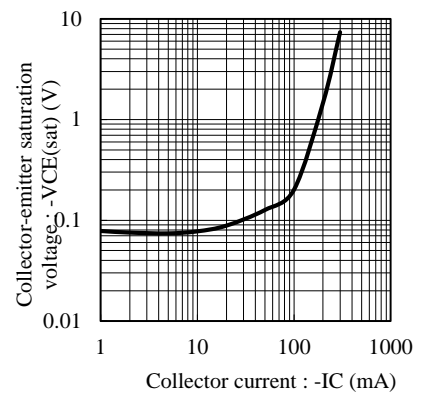


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

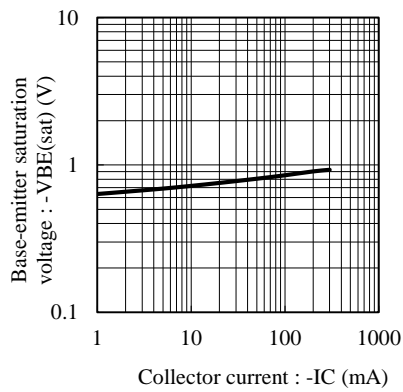


Fig.5 ft - IE
at VCE= -10V, Ta= 25C

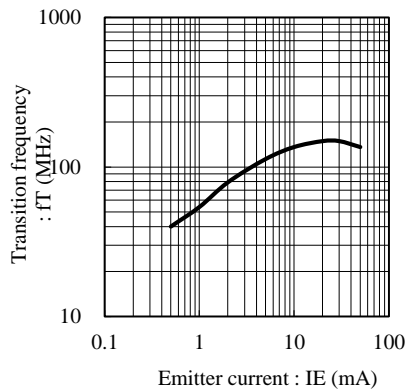


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

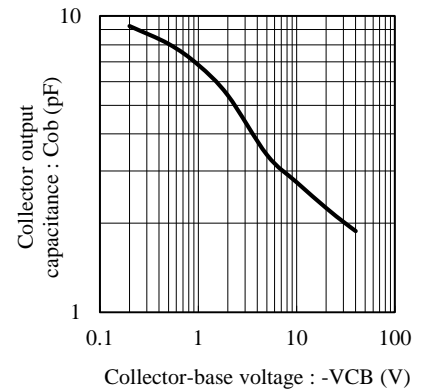


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

