

**Silicon PNP transistor epitaxial type  
AP088**
**[ Applications ]**

General purpose

**[ Feature ]**

 Low collector saturation voltage  $V_{CE(sat)} = -0.4V(\text{Max.})$  at  $I_C = -150\text{mA}$ ,  $I_B = -15\text{mA}$ 
**[ Absolute maximum ratings (Ta=25C) ]**

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-60	V
Collector-emitter voltage	VCEO	-60	V
Emitter-base voltage	VEBO	-5	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	-40	-	-	V	$I_C = -10\mu\text{A}$ , $I_E = 0\text{A}$
Collector-emitter breakdown voltage	BVCEO	-40	-	-	V	$I_C = -10\text{mA}$ , $I_B = 0\text{A}$
Emitter-base breakdown voltage	BVEBO	-5	-	-	V	$I_E = -10\mu\text{A}$ , $I_C = 0\text{A}$
DC current gain 1	hFE 1	75	-	-	-	$V_{CE} = -10\text{V}$ , $I_C = -0.1\text{mA}$
DC current gain 2	hFE 2	90	-	-	-	$V_{CE} = -10\text{V}$ , $I_C = -1\text{mA}$
DC current gain 3	hFE 3	90	-	-	-	$V_{CE} = -10\text{V}$ , $I_C = -10\text{mA}$
DC current gain 4	hFE 4	90	-	333	-	$V_{CE} = -10\text{V}$ , $I_C = -150\text{mA}$
DC current gain 5	hFE 5	50	-	-	-	$V_{CE} = -10\text{V}$ , $I_C = -500\text{mA}$
Collector-emitter saturation voltage 1	$V_{CE(sat) 1}$	-	-	-0.4	V	$I_C = -150\text{mA}$ , $I_B = -15\text{mA}$
Collector-emitter saturation voltage 2	$V_{CE(sat) 2}$	-	-	-1.6	V	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$
Transition frequency	fT	200	-	-	MHz	$V_{CE} = -20\text{V}$ , $I_E = 50\text{mA}$
Collector output capacitance	Cob	-	-	10	pF	$V_{CB} = -10\text{V}$ , $f = 1\text{MHz}$ , $I_E = 0\text{A}$

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= -10V, Ta= 25C

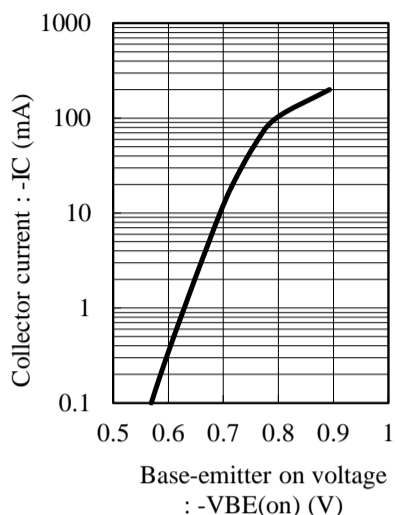


Fig.2 hFE - IC  
at VCE= -10V, Ta= 25C

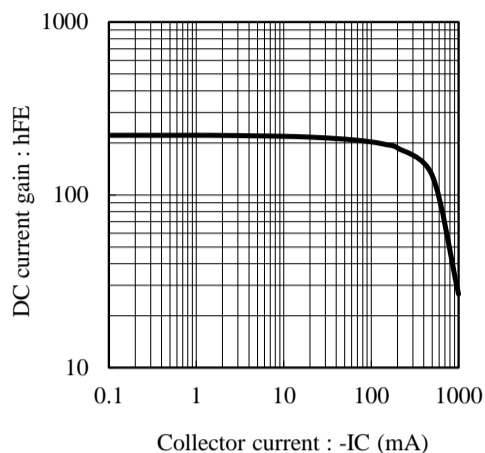


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

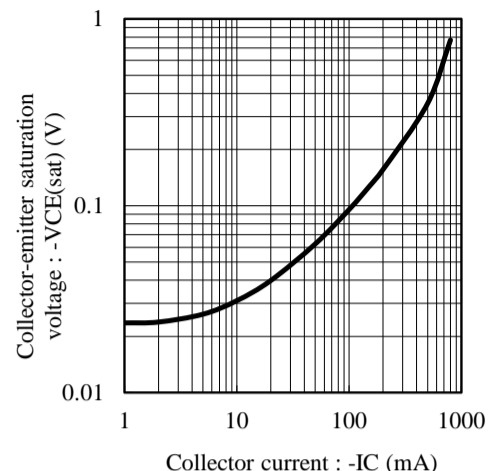


Fig.4 VBE(sat) - IC  
at IC/IB= 10, Ta= 25C

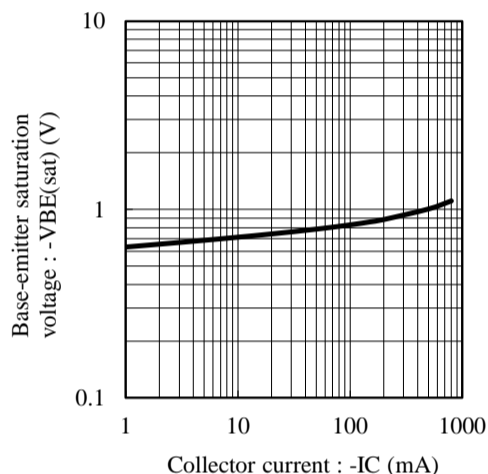


Fig.5 fT - IE  
at VCE= -20V, Ta= 25C

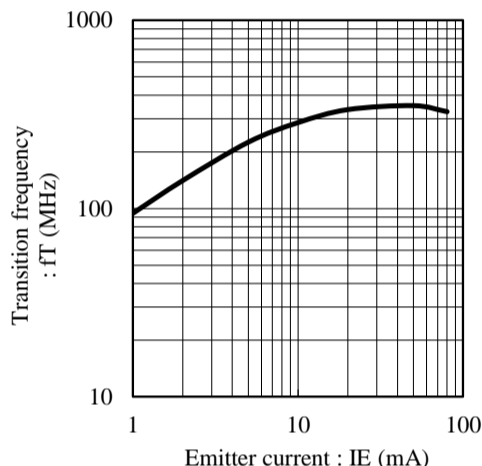


Fig.6 Cob - VCB  
at f= 1MHz, Ta= 25C

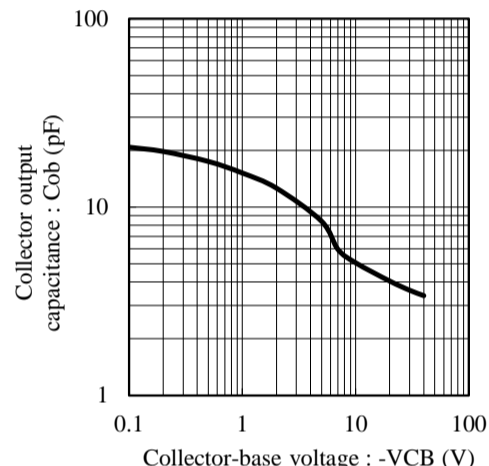


Fig.7 Cib - VEB  
at f= 1MHz, Ta= 25C

