

## Silicon PNP transistor epitaxial type A5862

### [ Applications ]

Supply line switching circuits  
 Battery management  
 DC-DC convertor  
 Strobe flash  
 Motor and lamp driver

### [ Feature ]

High DC gain  $hFE = 300-600$  at  $V_{CE} = -2V$ ,  $I_C = -0.1A$   
 Low collector saturation voltage  $V_{CE(sat)} < -225mV$  at  $I_C = -1A$ ,  $I_B = -50mA$

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-40	V
Collector-emitter voltage	VCEO	-40	V
Emitter-base voltage	VEBO	-5	V
Collector current (DC)	IC	-2	A
Collector current (Pulse)	ICP	-3	A
Base current (Pulse)	IBP	-0.3	A
Junction temperature	Tj	150	C
Storage temperature	Tstg	-55 to 150	C

### [ Electrical characteristics (Ta=25C) ]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BVCEO	-40	-	-	V	$I_C = -10mA$ , $I_B = 0A$
Collector cut-off current	ICBO	-	-	-100	nA	$V_{CB} = -30V$ , $I_E = 0A$
Emitter cut-off current	IEBO	-	-	-100	nA	$V_{EB} = -4V$ , $I_C = 0A$
DC current gain 1	hFE 1	300	450	600	-	$V_{CE} = -2V$ , $I_C = -0.1A$
DC current gain 2	hFE 2	260	-	-	-	$V_{CE} = -2V$ , $I_C = -0.5A$
DC current gain 3	hFE 3	210	-	-	-	$V_{CE} = -2V$ , $I_C = -1A$
DC current gain 4	hFE 4	100	-	-	-	$V_{CE} = -2V$ , $I_C = -2A$
Collector-emitter saturation voltage 1	$V_{CE(sat) 1}$	-	-55	-100	mV	$I_C = -0.1A$ , $I_B = -1mA$
Collector-emitter saturation voltage 2	$V_{CE(sat) 2}$	-	-70	-110	mV	$I_C = -0.5A$ , $I_B = -50mA$
Collector-emitter saturation voltage 3	$V_{CE(sat) 3}$	-	-140	-225	mV	$I_C = -0.75A$ , $I_B = -15mA$
Collector-emitter saturation voltage 4	$V_{CE(sat) 4}$	-	-140	-225	mV	$I_C = -1A$ , $I_B = -50mA$
Collector-emitter saturation voltage 5	$V_{CE(sat) 5}$	-	-240	-350	mV	$I_C = -2A$ , $I_B = -0.2A$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	-1.1	V	$I_C = -2A$ , $I_B = -0.2A$
Base-emitter on voltage	$V_{BE(on)}$	-	-	-0.75	V	$V_{CE} = -2V$ , $I_C = -0.1A$
Transition frequency	fT	100	200	-	MHz	$V_{CE} = -10V$ , $I_E = 0.1A$
Collector output capacitance	Cob	-	16	28	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.

No. A5862-20131209

Fig.1 IC - VBE(on)  
at VCE= -2V, Ta= 25C

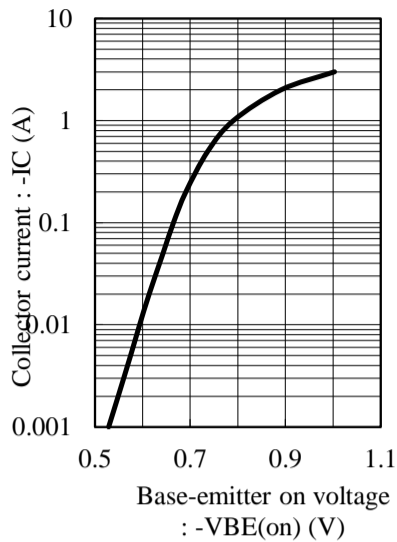


Fig.2 hFE - IC  
at VCE= -2V, Ta= 25C

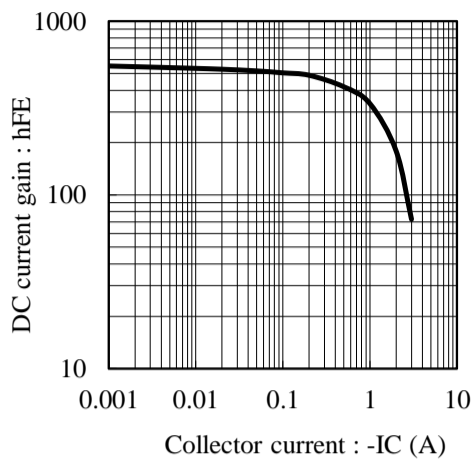


Fig.3 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

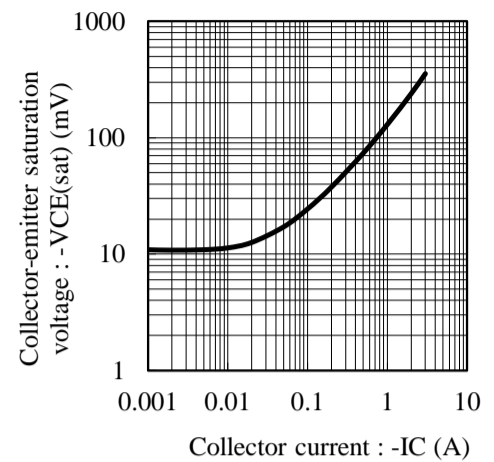


Fig.4 VCE(sat) - IC  
at IC/IB= 20, Ta= 25C

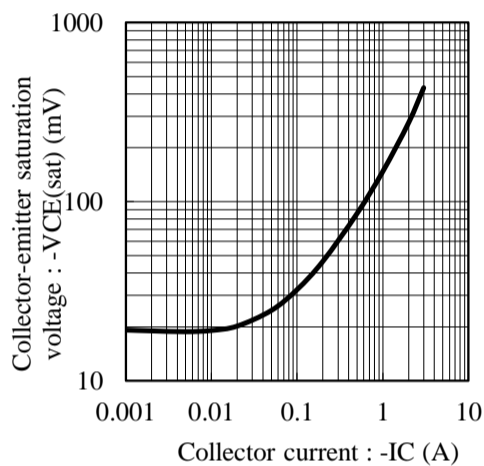


Fig.5 VCE(sat) - IC  
at IC/IB= 50, Ta= 25C

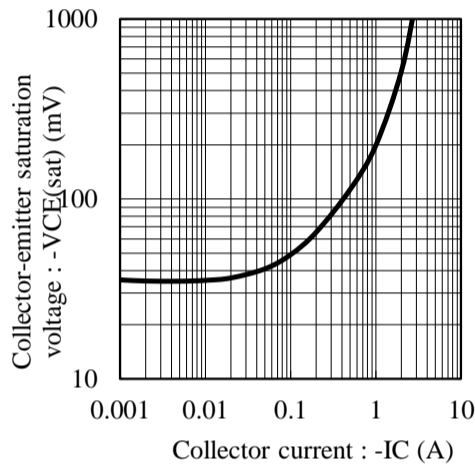


Fig.6 VCE(sat) - IC  
at IC/IB= 100, Ta= 25C

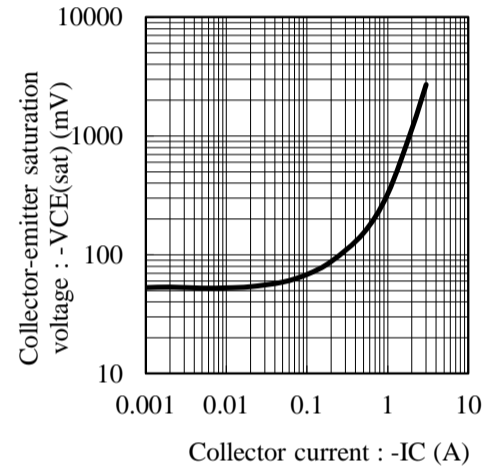


Fig.7 VBE(sat) - IC  
at IC/IB= 10, Ta= 25C

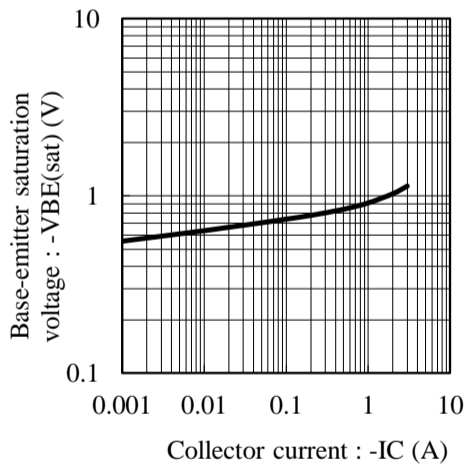


Fig.8 fT - IE  
at VCE= -10V, Ta= 25C

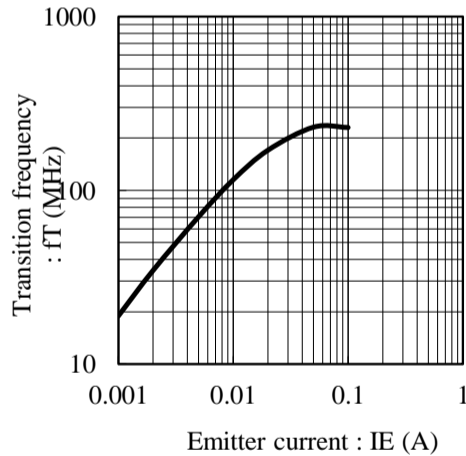


Fig.9 Cob - VCB  
at f= 1MHz, Ta= 25C

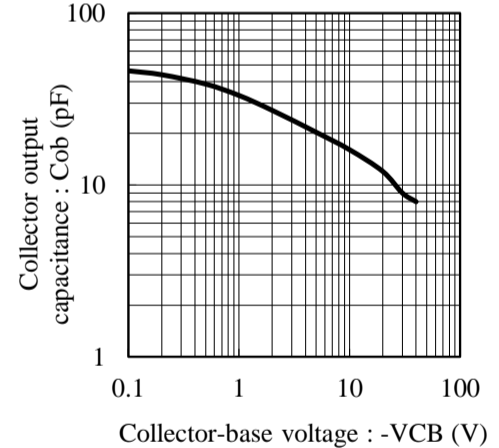


Fig.10 Cib - VEB  
at f= 1MHz, Ta= 25C

