

## Silicon PNP transistor epitaxial type B5213

### [ Applications ]

General purpose transistors  
Medium power amplifire and switching

### [ Feature ]

High break-down voltage  $BV_{CEO} = -80V$   
 Low collector saturation voltage  $V_{CE(sat)} = -0.15V(\text{Typ.})$  at  $I_C = -500mA$ ,  $I_B = -50mA$   
 Small output capacitance  $C_{ob} = 11pF(\text{Typ.})$  at  $V_{CB} = -10V$ ,  $f = 1MHz$   
 Complimentary pair with D5213

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	$V_{CBO}$	-80	V
Collector-emitter voltage	$V_{CEO}$	-80	V
Emitter-base voltage	$V_{EBO}$	-8	V
Collector current	$I_C$	-1000	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	$BV_{CBO}$	-80	-	-	V	$I_C = -50\mu A$ , $I_E = 0A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-80	-	-	V	$I_C = -2mA$ , $I_B = 0A$
Emitter-base breakdown voltage	$BV_{EBO}$	-8	-	-	V	$I_E = -50\mu A$ , $I_C = 0A$
Collector cut-off current	$I_{CBO}$	-	-	-0.5	$\mu A$	$V_{CB} = -50V$ , $I_E = 0A$
Emitter cut-off current	$I_{EBO}$	-	-	-0.5	$\mu A$	$V_{EB} = -8V$ , $I_E = 0A$
DC current gain	$h_{FE}$	56	-	390	-	$V_{CE} = -10V$ , $I_C = -150mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.15	-0.4	V	$I_C = -500mA$ , $I_B = -50mA$
Transition frequency	$f_T$	-	200	-	MHz	$V_{CE} = -10V$ , $I_E = 50mA$
Collector output capacitance	$C_{ob}$	-	11	20	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 hFE - IC  
at VCE= -10V, Ta= 25C

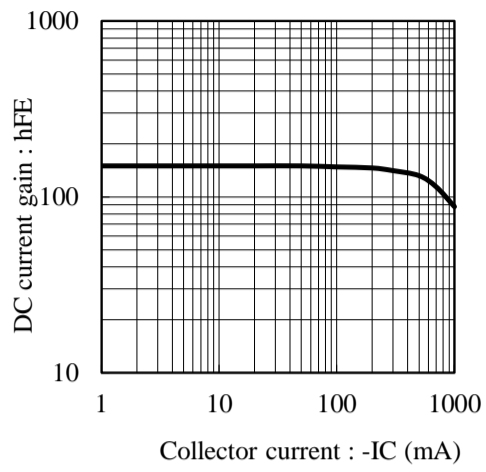


Fig.2 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

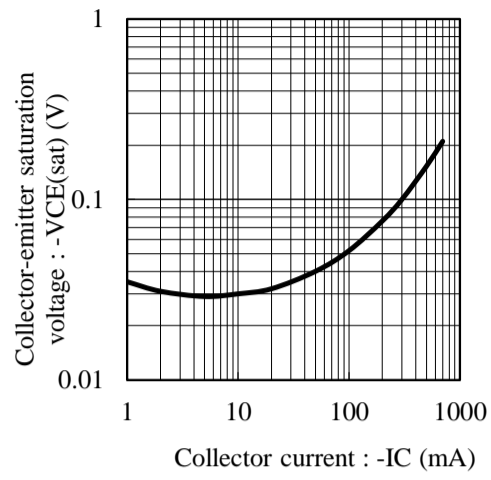


Fig.3 fT - IE  
at VCE= -10V, Ta= 25C

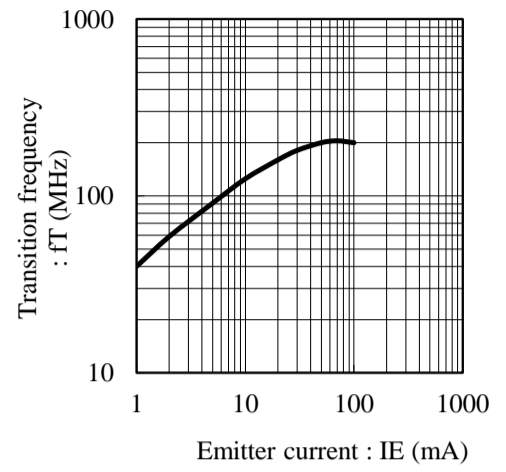


Fig.4 Cob - VCB  
at f= 1MHz, Ta= 25C

