

Silicon NPN transistor epitaxial type D5016

[Applications]

General purpose amplifier and switching

[Feature]

Correspond to BC817

High collector current

Low collector-emitter saturation voltage $V_{CE(sat)} = 0.2V(\text{Typ.})$ at $I_C = 500mA$

Small collector output capacitance $C_{ob} = 5pF(\text{Typ.})$ at $V_{CB} = 10V$

Complimentary type of phenitec P/N B5016

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	50	V
Collector-emitter voltage	VCEO	45	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 ($T_a = 25C$)]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	50	-	-	V	$I_C = 10\mu A, I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	45	-	-	V	$I_C = 10mA, I_B = 0A$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 1\mu A, I_C = 0A$
Collector cut-off current	ICBO	-	-	100	nA	$V_{CB} = 20V, I_E = 0A$
Emitter cut-off current	IEBO	-	-	100	nA	$V_{EB} = 5V, I_E = 0A$
DC current gain 1	hFE 1	100	-	600	-	$V_{CE} = 1V, I_C = 100mA$
DC current gain 2	hFE 2	40	-	-	-	$V_{CE} = 1V, I_C = 500mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.7	V	$I_C = 500mA, I_B = 50mA$
Base-emitter on voltage	$V_{BE(on)}$	-	-	1.2	V	$V_{CE} = 1V, I_C = 500mA$
Transition frequency	f T	100	-	-	MHz	$V_{CE} = 5V, I_E = -10mA$
Collector output capacitance	Cob	-	5	-	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. D5016-20050216

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

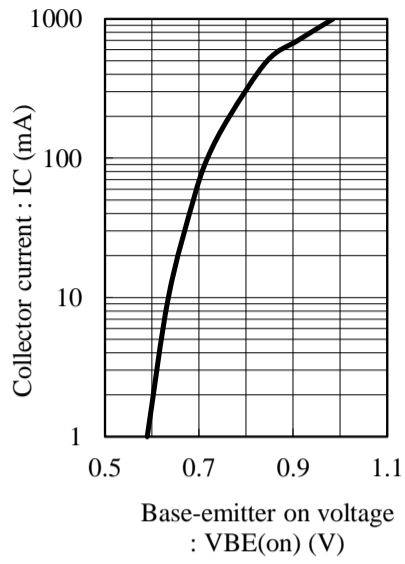


Fig.2 hFE - IC
at VCE= 1V, Ta= 25C

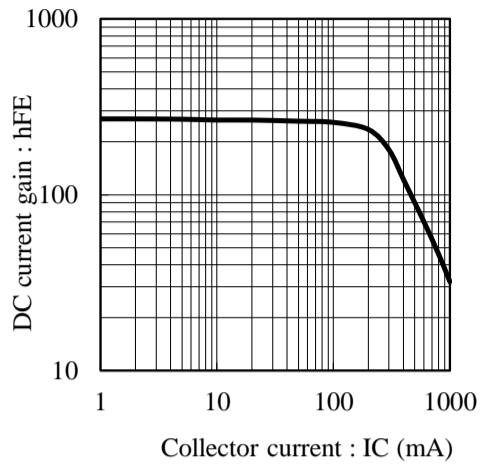


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

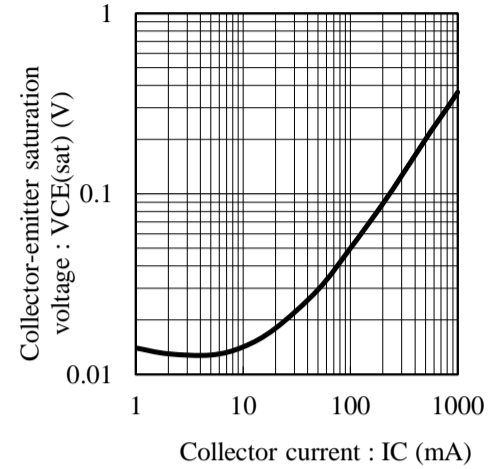


Fig.4 fT - IE
at VCE= 5V, Ta= 25C

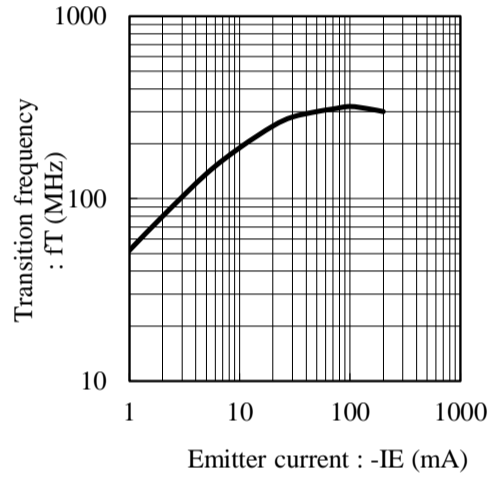


Fig.5 Cob - VCB
at f= 1MHz, Ta= 25C

