

**Silicon NPN transistor epitaxial type  
C5991**

**[ Applications ]**

UHF/VHF oscillator  
VHF converter

**[ Feature ]**

High transition frequency  $f_T = 1.5\text{GHz}$  (Typ.)  
Low output capacitance  $C_{ob} = 0.9\text{pF}$  (Typ.)

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	30	V
Collector-emitter voltage	VCEO	18	V
Emitter-base voltage	VEBO	3	V
Collector current	IC	50	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	30	-	-	V	IC= 10uA, IE= 0A
Collector-emitter breakdown voltage	BVCEO	18	-	-	V	IC= 1mA, IB= 0A
Emitter-base breakdown voltage	BVEBO	3	-	-	V	IE= 10uA, IC= 0A
Collector cut-off current	ICBO	-	-	0.5	uA	VCB= 10V, IE= 0A
Emitter cut-off current	IEBO	-	-	0.5	uA	VEB= 2V, IE= 0A
DC current gain	hFE	56	-	270	-	VCE= 10V, IC= 10mA
Collector-emitter saturation voltage	VCE(sat)	-	-	0.5	V	IC= 20mA, IB= 4mA
Transition frequency	fT	600	1500	-	MHz	VCE= 10V, IE= -10mA
Collector output capacitance	Cob	-	0.9	1.5	pF	VCB= 10V, f = 1MHz, IE= 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

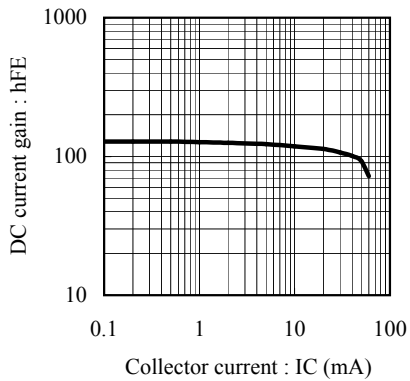


Fig.2 VCE(sat) - IC  
at IC/IB= 10, Ta= 25C

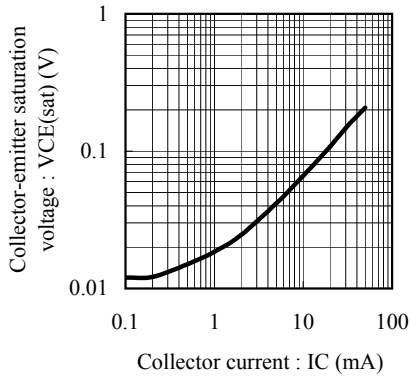


Fig.3 fT - IE  
at VCE= 10V, Ta= 25C

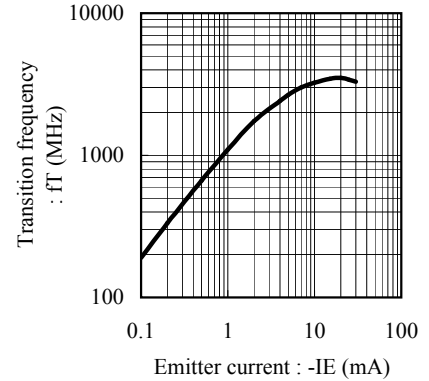


Fig.4 Cob - VCB  
at f= 1MHz, Ta= 25C

