

**Silicon NPN transistor epitaxial type
C5919**

[Applications]

DC/DC relay drivers, lamp drivers, motor drivers, strobes

[Feature]

Very low collector-emitter saturation voltage $V_{CE(sat)} = 0.3V$ (Max.) at $I_C = 3A$, $I_B = 60mA$

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	15	V
Collector-emitter voltage	VCEO	15	V
Emitter-base voltage	VEBO	5	V
Collector current (DC)	IC	6	A
Collector current (Pulse)	ICP	9	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-base breakdown voltage	BVCBO	15	-	-	V	$I_C = 10\mu A$
Collector-emitter breakdown voltage	BVCEO	15	-	-	V	$I_C = 1mA$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 10\mu A$
Collector cut-off current	ICBO	-	-	100	nA	$V_{CB} = 12V$
Emitter cut-off current	IEBO	-	-	100	nA	$V_{EB} = 4V$
DC current gain	hFE	250	-	-	-	$V_{CE} = 2V$, $I_C = 0.5A$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	0.18	V	$I_C = 1.5A$, $I_B = 30mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	0.3	V	$I_C = 3A$, $I_B = 60mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.2	V	$I_C = 1.5A$, $I_B = 30mA$
Transition frequency	fT	-	250	-	MHz	$V_{CE} = 2V$, $I_E = -0.5A$
Collector output capacitance	Cob	-	33	-	pF	$V_{CB} = 10V$, $f = 1MHz$, $I_E = 0A$
Turn on time	ton	-	35	-	ns	$V_{CC} = 5V$, $I_C = 1.5A$
Storage time	tstg	-	135	-	ns	$I_B1 = -I_B2 = 75mA$
Fall time	sf	-	5	-	ns	

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

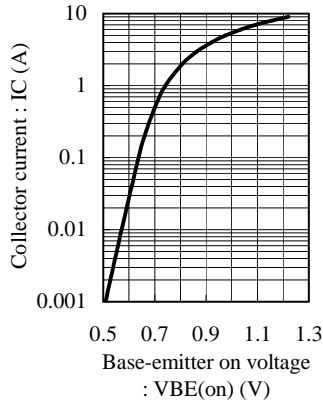


Fig.2 hFE - IC
at VCE= 2V, Ta= 25C

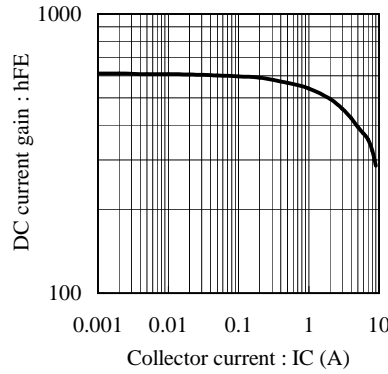


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

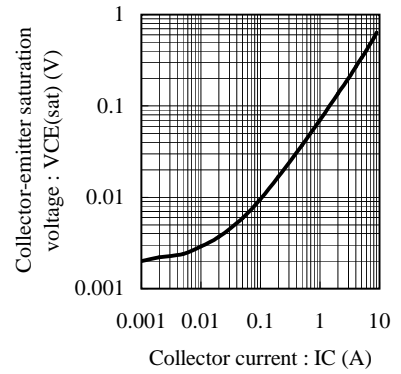


Fig.4 VCE(sat) - IC
at IC/IB= 50, Ta= 25C

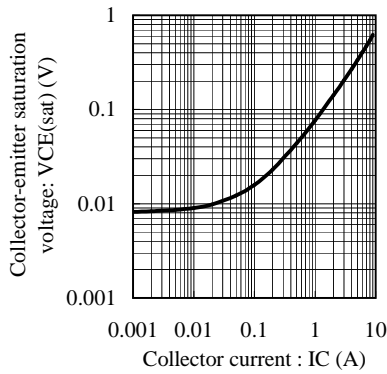


Fig.5 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

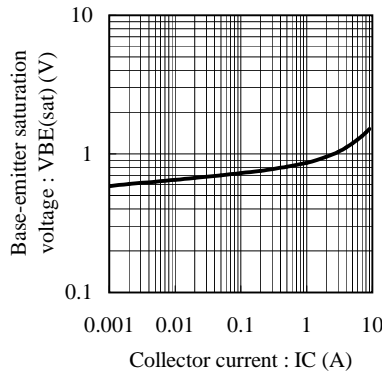


Fig.6 VBE(sat) - IC
at IC/IB= 50, Ta= 25C

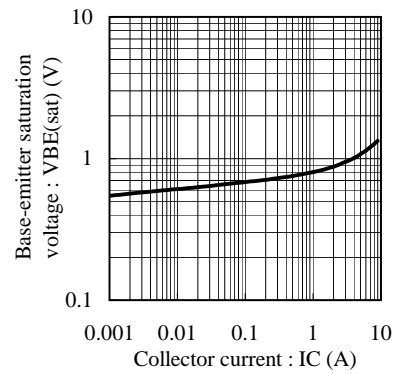


Fig.7 fT - IE
at VCE= 2V, Ta= 25C

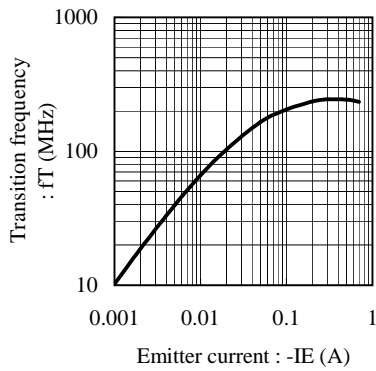


Fig.8 Cob - VCB
at f= 1MHz, Ta= 25C

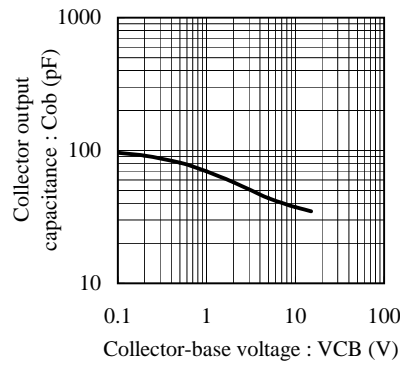


Fig.9 Cib - VEB
at f= 1MHz, Ta= 25C

