

**Silicon NPN transistor triple diffused type  
CP938**
**[ Applications ]**

Compact fluorescent lamps (CFLS)

**[ Feature ]**

High Voltage VCEO= 400V, VCBO= 700V

Fast-switching speed

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	700	V
Collector-emitter voltage	VCEO	400	V
Emitter-base voltage	VEBO	9	V
Collector current	IC	1	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	700	-	-	V	IC= 100uA
Collector-emitter breakdown voltage	BVCEO	400	-	-	V	IC= 1mA
Emitter-base breakdown voltage	BVEBO	9	-	-	V	IE= 100uA
Collector cut-off current	ICEO	-	-	1	mA	VCE= 400V
DC current gain 1	hFE 1	8	-	35	-	VCE= 2V, IC= 500mA
DC current gain 2	hFE 2	5	-	25	-	VCE= 2V, IC= 1A
Collector-emitter saturation voltage 1	VCE(sat) 1	-	-	0.5	V	IC= 500mA, IB= 100mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	-	1	V	IC= 1A, IB= 250mA
Collector-emitter saturation voltage 3	VCE(sat) 3	-	-	1.5	V	IC= 1.5A, IB= 500mA
Base-emitter saturation voltage 1	VBE(sat) 1	-	-	1	V	IC= 500mA, IB= 100mA
Base-emitter saturation voltage 2	VBE(sat) 2	-	-	1.2	V	IC= 1A, IB= 250mA
Turn on time	ton	-	-	1	us	VCC= 125V, IC= 1A
Storage time	tstg	-	-	4	us	IB1= -IB2= 200mA
Fall time	tf	-	-	0.7	us	

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. CP938-20071128

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

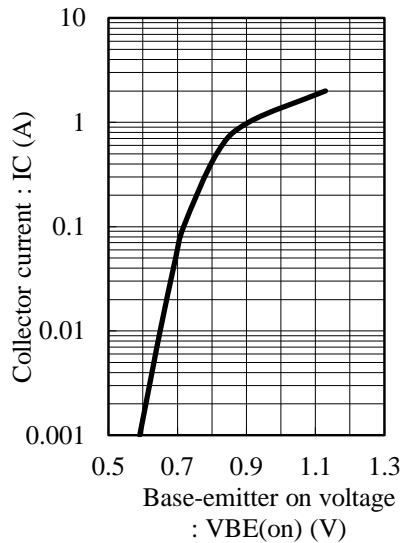


Fig.2 hFE - IC  
at VCE= 2V, Ta= 25C

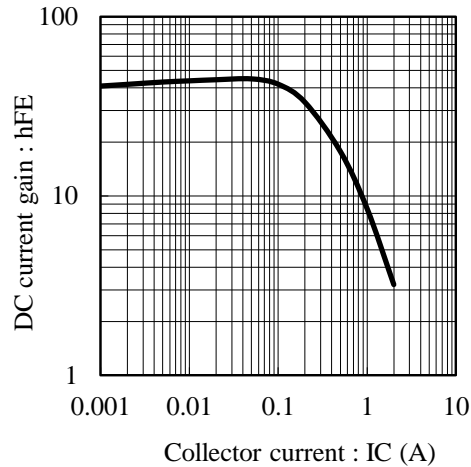


Fig.3 VCE(sat) - IC  
at IC/IB= 5, Ta= 25C

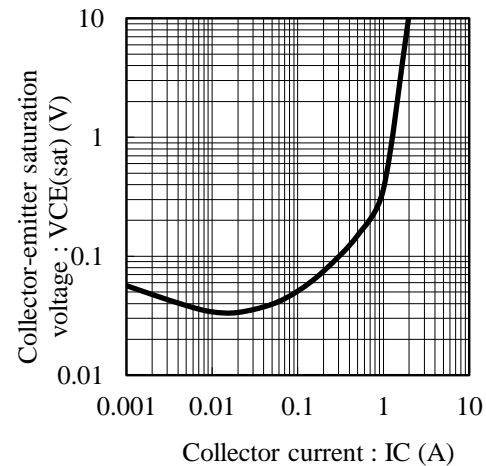


Fig.4 VCE(sat) - IC  
at IC/IB= 4, Ta=25 C

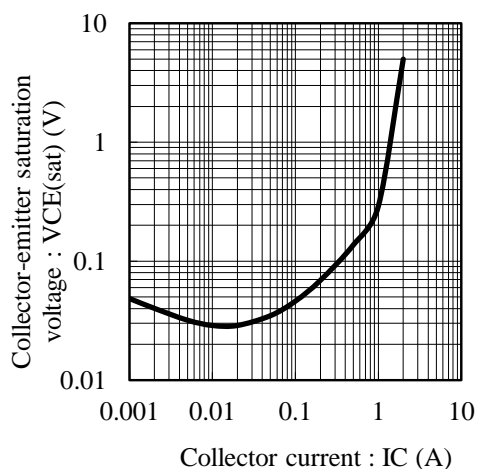


Fig.5 VCE(sat) - IC  
at IC/IB= 3, Ta= 25C

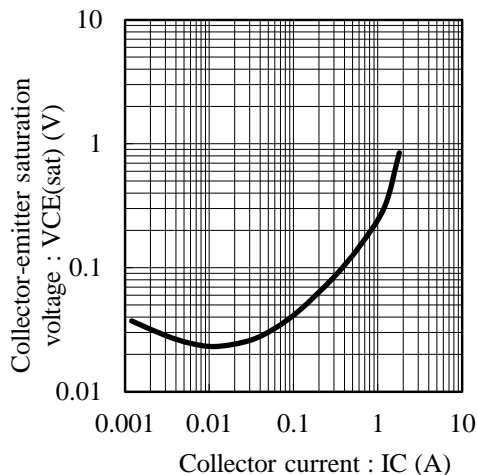


Fig.6 VBE(sat) - IC  
at IC/IB= 5, Ta= 25C

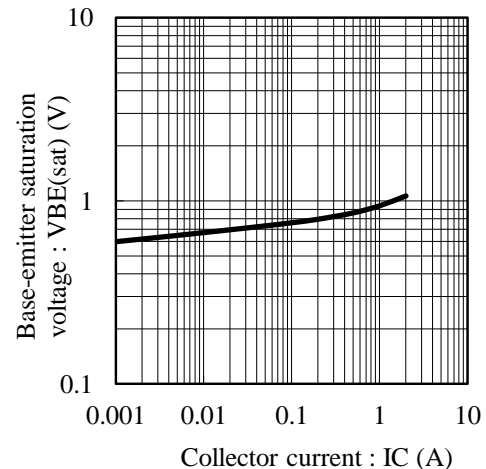


Fig.7 VBE(sat) - IC  
at IC/IB= 4, Ta= 25C

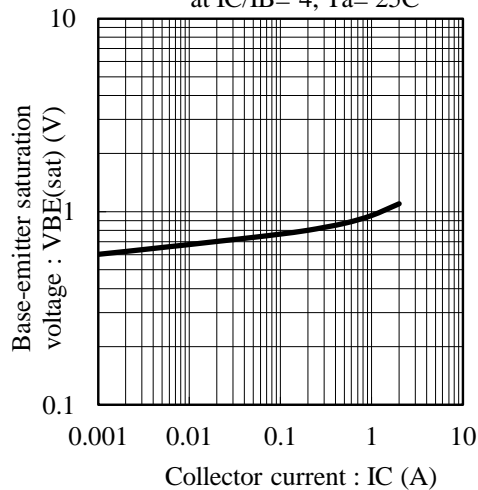


Fig.8 fT - IE  
at VCE= 10V, Ta= 25C

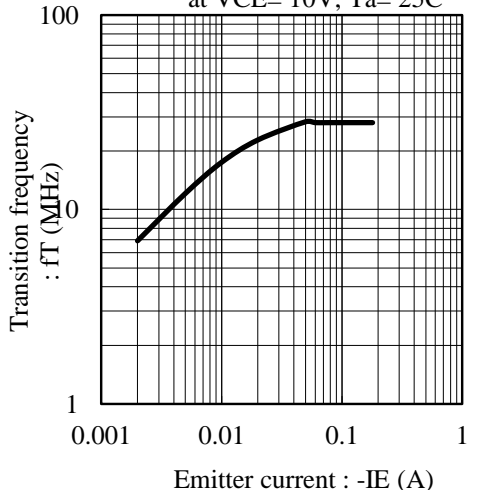


Fig.9 Cob - VCB  
at f= 1MHz, Ta= 25C

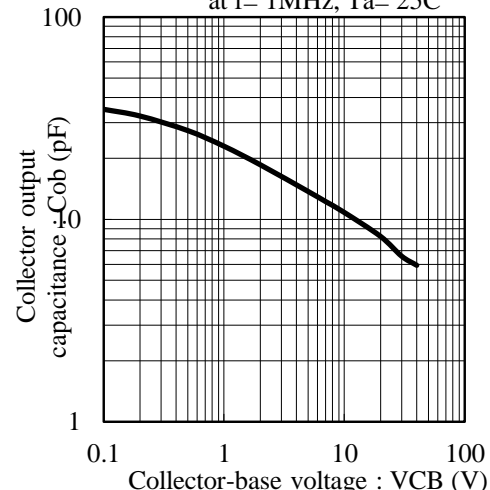


Fig.10 Cib - VEB  
at f= 1MHz, Ta= 25C

