

Silicon NPN transistor epitaxial type CP869

[Applications]

High voltage switching and amplifier
LED lighting control

[Feature]

High voltage $V_{CEO}=400V$, $V_{CBO}=600V$
Small collector output capacitance $C_{ob}=7pF$ (max.) at $V_{CB}=20V$

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	V_{CBO}	600	V
Collector-emitter voltage	V_{CEO}	400	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	300	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}	600	-	-	V	$I_C=50\mu A$, $I_E=0A$
Collector-emitter breakdown voltage	BV_{CEO}	400	-	-	V	$I_C=1mA$, $I_B=0A$
Emitter-base breakdown voltage	BV_{EBO}	7	-	-	V	$I_E=50\mu A$, $I_C=0A$
Collector cut-off current	I_{CBO}	-	-	0.5	μA	$V_{CB}=600V$, $I_E=0A$
DC current gain 1	h_{FE1}	100	-	-	-	$V_{CE}=10V$, $I_C=4mA$
DC current gain 2	h_{FE2}	100	-	300	-	$V_{CE}=10V$, $I_C=10mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.5	V	$I_C=50mA$, $I_B=5mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.0	V	$I_C=50mA$, $I_B=5mA$
Transition frequency	f_T	50	-	-	MHz	$V_{CE}=10V$, $I_E=-20mA$
Collector output capacitance	C_{ob}	-	-	7	pF	$V_{CB}=20V$, $f=1MHz$, $I_E=0A$

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 IC - VBE(on)
at VCE= 10V, Ta= 25C

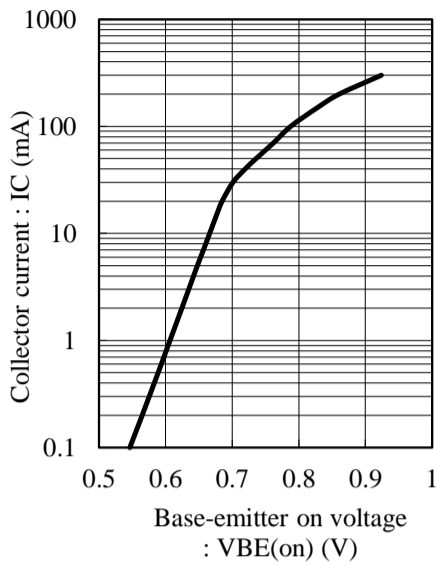


Fig.2 hFE - IC
at VCE= 10V, Ta= 25C

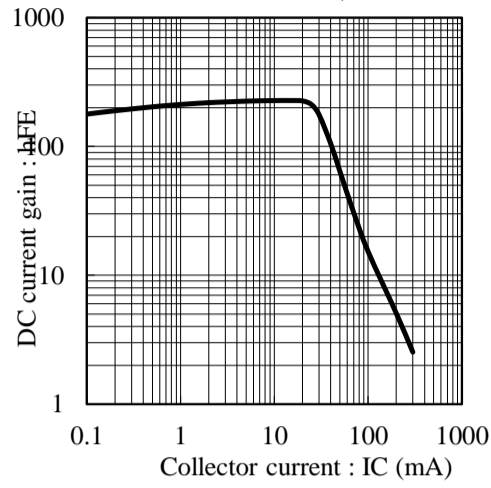


Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

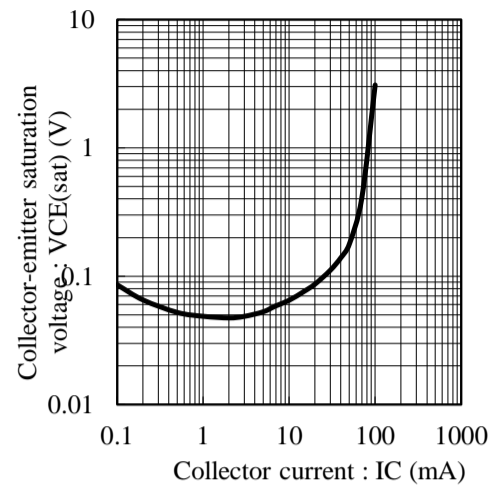


Fig.4 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

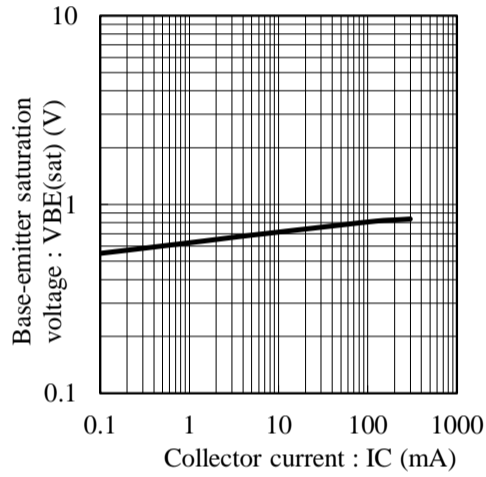


Fig.5 fT - IE
at VCE= 10V, Ta= 25C

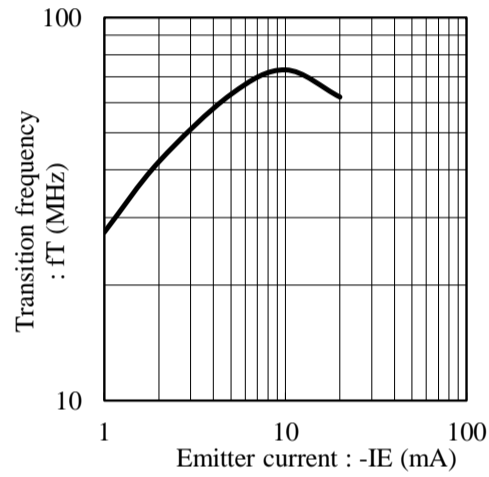


Fig.6 Cob - VCB
at f= 1MHz, Ta= 25C

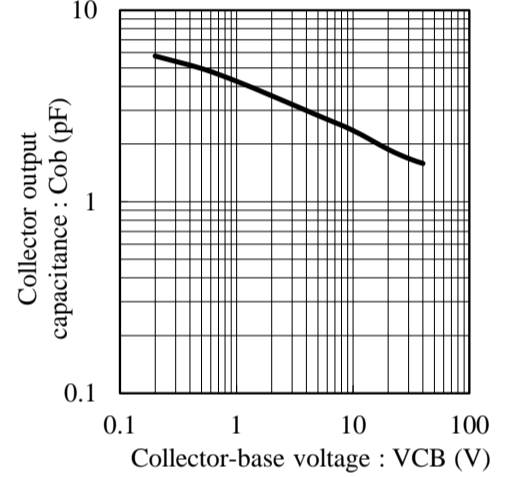


Fig.7 Cib - VEB
at f= 1MHz, Ta= 25C

