

**Silicon NPN transistor triple diffused type
CP896**

[Applications]

High voltage switching and amplifier

[Feature]

High voltage $V_{CE0} = 400V$

Low collector saturation voltage $V_{CE(sat)} = 0.5V$ (Max.) at $I_C = 100mA$, $I_B = 10mA$

Small collector output capacitance $C_{ob} = 10pF$ (Max.) at $V_{CB} = 20V$

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	400	V
Collector-emitter voltage	VCEO	400	V
Emitter-base voltage	VEBO	5	V
Collector current	I_C	500	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	BVCBO	400	-	-	V	$I_C = 100\mu A$
Collector-emitter breakdown voltage	BVCEO	400	-	-	V	$I_C = 10mA$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 100\mu A$
Collector cut-off current	ICBO	-	-	100	nA	$V_{CB} = 320V$
Collector cut-off current	ICEO	-	-	100	nA	$V_{CE} = 320V$
Emitter cut-off current	IEBO	-	-	100	nA	$V_{EB} = 4V$
DC current gain 1	h_{FE1}	50	-	-	-	$V_{CE} = 5V$, $I_C = 1mA$
DC current gain 2	h_{FE2}	50	-	-	-	$V_{CE} = 5V$, $I_C = 100mA$
DC current gain 3	h_{FE3}	40	-	-	-	$V_{CE} = 10V$, $I_C = 200mA$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	0.3	V	$I_C = 20mA$, $I_B = 1mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	0.25	V	$I_C = 50mA$, $I_B = 5mA$
Collector-emitter saturation voltage 3	$V_{CE(sat)3}$	-	-	0.5	V	$I_C = 100mA$, $I_B = 10mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	0.9	V	$I_C = 100mA$, $I_B = 10mA$
Base-emitter on voltage	$V_{BE(on)}$	-	-	0.9	V	$V_{CE} = 5V$, $I_C = 100mA$
Transition frequency	f_T	50	-	-	MHz	$V_{CE} = 20V$, $I_E = -20mA$
Collector output capacitance	C_{ob}	-	-	10	pF	$V_{CB} = 20V$, $f = 1MHz$, $I_E = 0A$
Turn on time	t_{on}	-	130	-	ns	$V_{CC} = 100V$, $I_C = 100mA$
Turn off time	t_{off}	-	3300	-	ns	$I_{B1} = 10mA$, $-I_{B2} = 20mA$

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= 5V, Ta= 25C

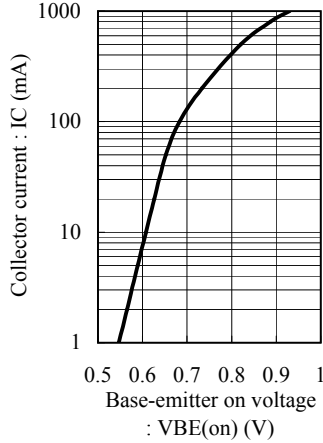


Fig.2 hFE - IC
at VCE= 5V, Ta= 25C

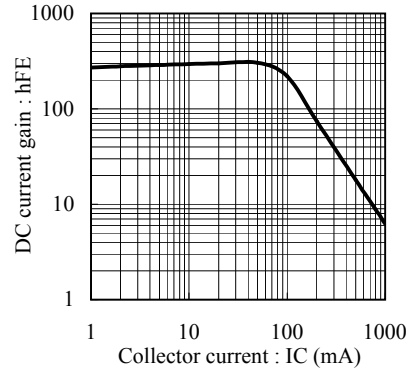


Fig.3 hFE - IC
at VCE= 10V, Ta= 25C

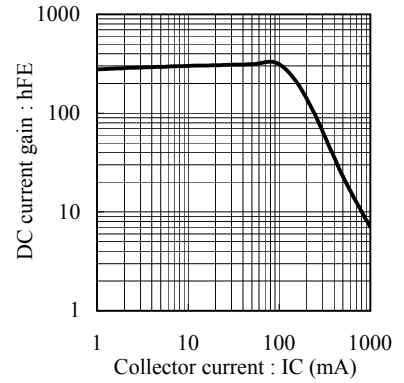


Fig.4 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

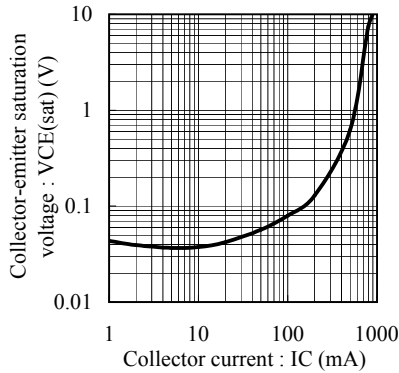


Fig.5 VCE(sat) - IC
at IC/IB=20, Ta= 25C

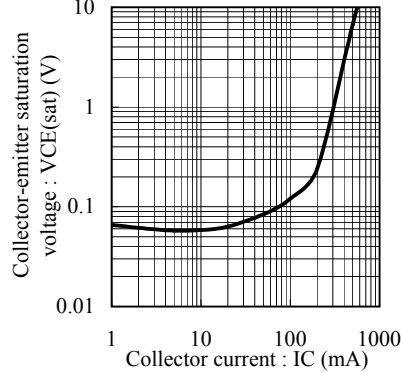


Fig.6 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

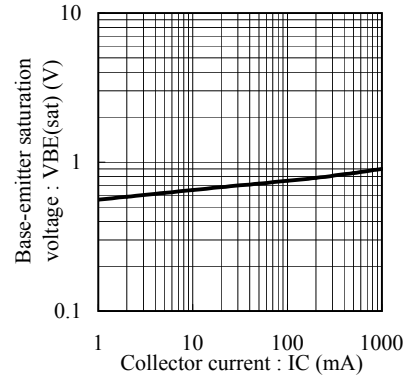


Fig.7 fT - IE
at VCE= 20V, Ta= 25C

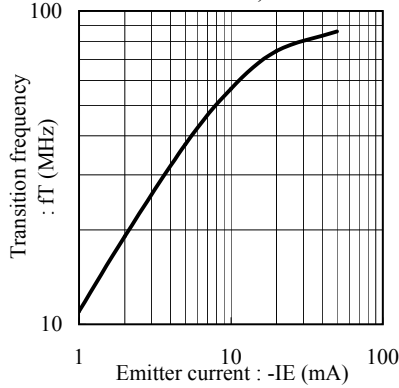


Fig.8 Cob - VEB
at f= 1MHz, Ta= 25C

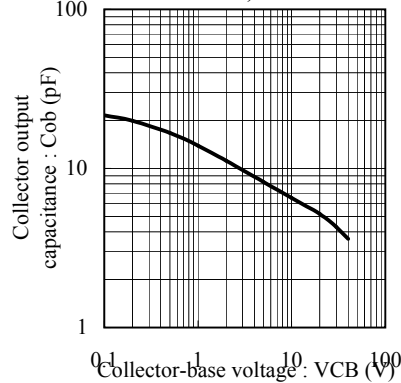


Fig.9 Cib - VEB
at f= 1MHz, Ta= 25C

