

Silicon NPN transistor triple diffused type CP971

[Applications]

High voltage switching and amplifier
Color TV horizon driver
Color TV chroma output

[Feature]

High voltage $V_{CEO} = 300V$
Low collector saturation voltage $V_{CE(sat)} = 0.5V$ (Max.) at $I_C = 100mA$, $I_B = 10mA$
Small collector output capacitance $C_{ob} = 2.5pF$ (Typ.) at $V_{CB} = 20V$
PNP complementary pair with AP971

[Absolute maximum ratings (Ta= 25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	300	V
Collector-emitter voltage	VCEO	300	V
Emitter-base voltage	VEBO	7	V
Collector current	IC	300	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	300	-	-	V	$I_C = 100\mu A$, $I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	300	-	-	V	$I_C = 10mA$, $I_B = 0A$
Emitter-base breakdown voltage	BVEBO	7	-	-	V	$I_E = 100\mu A$, $I_C = 0A$
Collector cut-off current	ICBO	-	-	0.5	μA	$V_{CB} = 300V$, $I_E = 0A$
Emitter cut-off current	IEBO	-	-	0.5	μA	$V_{EB} = 7V$, $I_C = 0A$
DC current gain	hFE	60	-	280	-	$V_{CE} = 10V$, $I_C = 10mA$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.5	V	$I_C = 100mA$, $I_B = 10mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1	V	$I_C = 100mA$, $I_B = 10mA$
Transition frequency	fT	-	80	-	MHz	$V_{CE} = 10V$, $I_E = -10mA$
Collector output capacitance	Cob	-	2.5	-	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 $V_{BE(on)}$ - I_C
at $V_{CE} = 10V$, $T_a = 25C$

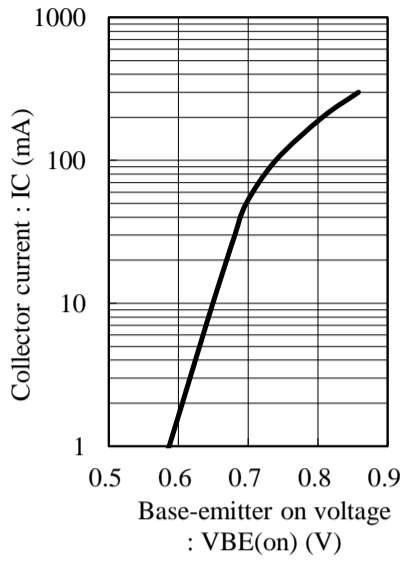


Fig.2 h_{FE} - I_C
at $V_{CE} = 10V$, $T_a = 25C$

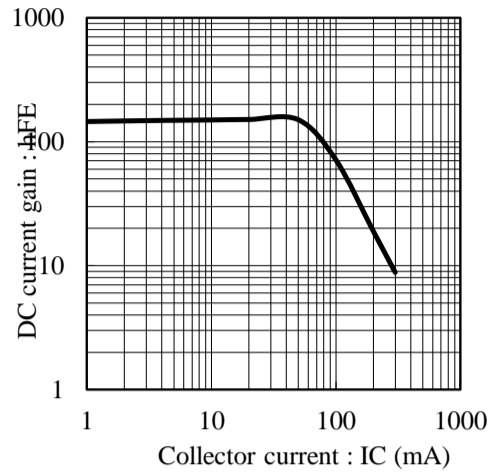


Fig.3 $V_{CE(sat)}$ - I_C
at $I_C/I_B = 10$, $T_a = 25C$

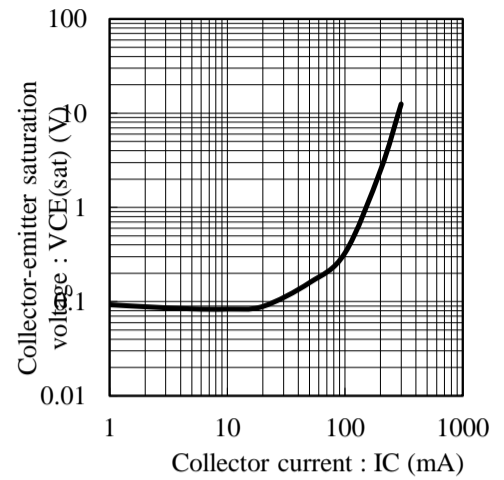


Fig.4 $V_{BE(sat)}$ - I_C
at $I_C/I_B = 10$, $T_a = 25C$

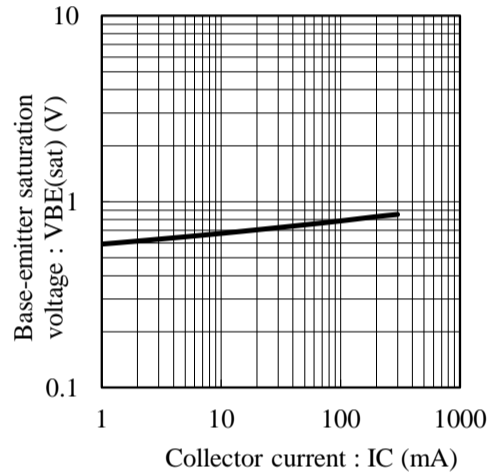


Fig.5 f_T - I_E
at $V_{CE} = 10V$, $T_a = 25C$

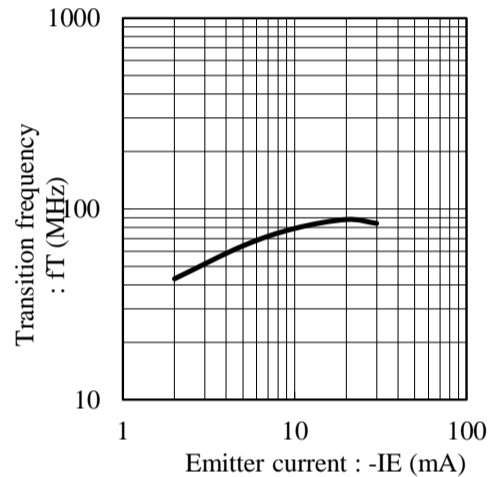


Fig.6 C_{ob} - V_{CB}
at $f = 1MHz$, $T_a = 25C$

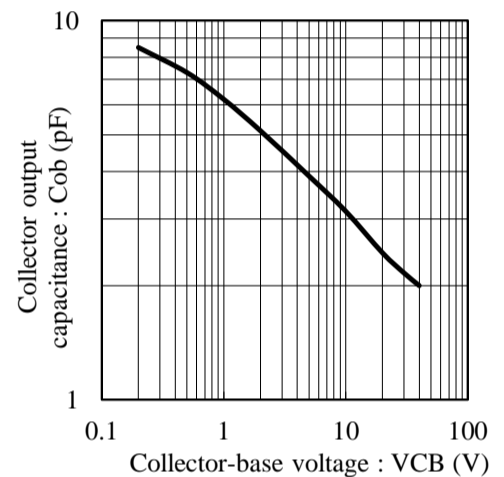


Fig.7 C_{ib} - V_{EB}
at $f = 1MHz$, $T_a = 25C$

