

Silicon NPN transistor triple diffused type 6C958

[Applications]

High voltage switching and amplifier

[Feature]

High voltage $V_{CEO} = 400V$

Low collector saturation voltage $V_{CE(sat)} = 0.75V$ (Max.) at $I_C = 50mA$, $I_B = 5mA$

Small collector output capacitance $C_{ob} = 2.5pF$ (Typ.) at $V_{CB} = 20V$

PNP complementary pair with AP958

[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	6	V
Collector current	IC	300	mA
Junction temperature	Tj	150	C
Storage temperature	Tstg	-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	$I_C = 1mA$
Collector-emitter breakdown voltage	BVCES	400	-	-	V	$I_C = 100\mu A$
Emitter-base breakdown voltage	BVEBO	6	-	-	V	$I_E = 10\mu A$
Collector cut-off current	ICBO	-	-	0.1	μA	$V_{CB} = 400V$
Collector cut-off current	ICES	-	-	1	μA	$V_{CE} = 400V$
Emitter cut-off current	IEBO	-	-	0.1	μA	$V_{EB} = 4V$
DC current gain 1	hFE 1	40	-	-	-	$V_{CE} = 10V$, $I_C = 1mA$
DC current gain 2	hFE 2	80	-	300	-	$V_{CE} = 10V$, $I_C = 10mA$
DC current gain 3	hFE 3	45	-	-	-	$V_{CE} = 10V$, $I_C = 50mA$
DC current gain 4	hFE 4	40	-	-	-	$V_{CE} = 10V$, $I_C = 100mA$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	0.5	V	$I_C = 10mA$, $I_B = 1mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	0.75	V	$I_C = 50mA$, $I_B = 5mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	0.75	V	$I_C = 10mA$, $I_B = 1mA$
Transition frequency	fT	50	-	-	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.

No. 6C958-20190909

Fig.1 hFE - IC
at VCE= 10V, Ta= 25C

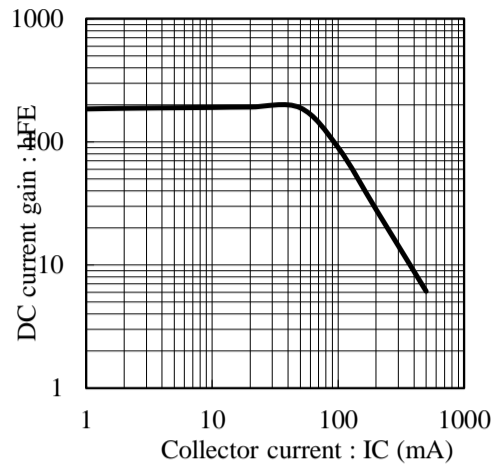


Fig.2 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

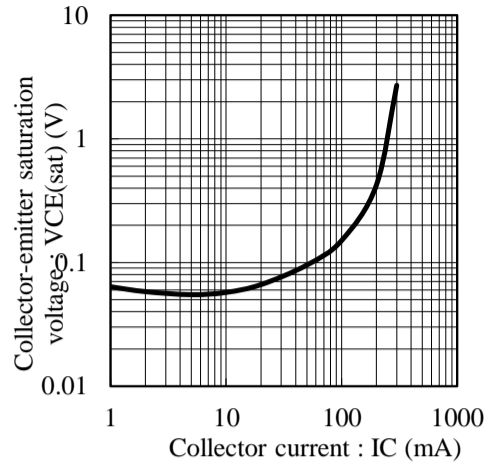


Fig.3 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

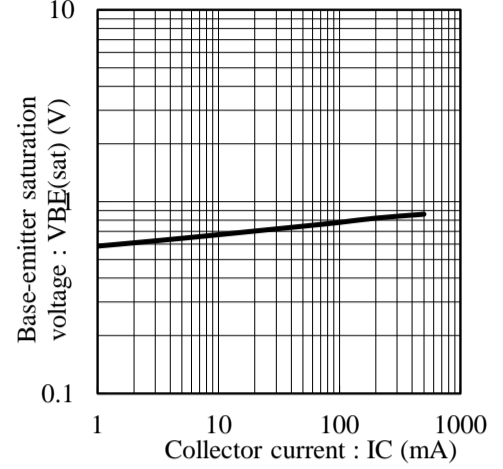


Fig.4 fT - IE
at VCE= 10V, Ta= 25C

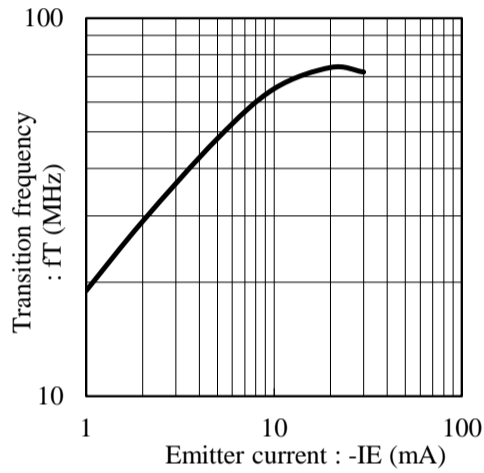


Fig.5 Cob - VCB
at f= 1MHz, Ta= 25C

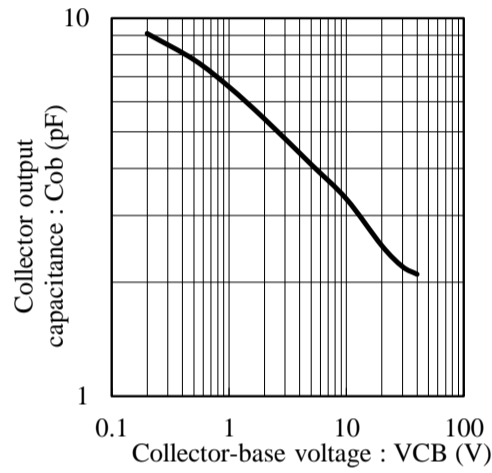


Fig.6 Cib - VEB
at f= 1MHz, Ta= 25C

