

Silicon NPN transistor epitaxial type C5983

[Applications]

General purpose amplifier
High voltage switching (such as telephone)

[Feature]

High voltage $V_{CEO} = 160V$
 Collector current $I_C = 0.6A$
 Low collector saturation voltage $V_{CE(sat)} = 0.2V$ (Max.) at $I_C = 50mA$, $I_B = 5mA$
 PNP complementary pair with A5983

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	180	V
Collector-emitter voltage	VCEO	160	V
Emitter-base voltage	VEBO	6	V
Collector current	IC	600	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	180	-	-	V	$I_C = 100\mu A$, $I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	160	-	-	V	$I_C = 1mA$, $I_B = 0A$
Emitter-base breakdown voltage	BVEBO	6	-	-	V	$I_E = 10\mu A$, $I_C = 0A$
Collector cut-off current	ICBO	-	-	50	nA	$V_{CB} = 120V$, $I_E = 0A$
Emitter cut-off current	IEBO	-	-	50	nA	$V_{EB} = 4V$, $I_C = 0A$
DC current gain 1	hFE 1	72	-	-	-	$V_{CE} = 5V$, $I_C = 1mA$
DC current gain 2	hFE 2	72	-	330	-	$V_{CE} = 5V$, $I_C = 10mA$
DC current gain 3	hFE 3	27	-	-	-	$V_{CE} = 5V$, $I_C = 50mA$
Collector-emitter saturation voltage 1	$V_{CE(sat) 1}$	-	-	0.15	V	$I_C = 10mA$, $I_B = 1mA$
Collector-emitter saturation voltage 2	$V_{CE(sat) 2}$	-	-	0.2	V	$I_C = 50mA$, $I_B = 5mA$
Base-emitter saturation voltage 1	$V_{BE(sat) 1}$	-	-	1.0	V	$I_C = 10mA$, $I_B = 1mA$
Base-emitter saturation voltage 2	$V_{BE(sat) 2}$	-	-	1.0	V	$I_C = 50mA$, $I_B = 5mA$
Base-emitter on voltage (only C5983)	$V_{BE(on)}$	-	-	0.76	V	$V_{CE} = 5V$, $I_C = 10mA$
Transition frequency	fT	100	-	300	MHz	$V_{CE} = 10V$, $I_E = -10mA$
Collector output capacitance	Cob	-	-	6	pF	$V_{CB} = 10V$, $f = 1MHz$, $I_E = 0A$

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.

