

## Silicon NPN transistor triple diffusion type CP884

### [ Applications ]

High voltage switching and amplifier

### [ Feature ]

High voltage  $V_{CEO} = 500V$

Excellent hFE characteristics up to  $I_C = 150mA$

Low collector saturation voltage  $V_{CE(sat)} = 0.5V$  (Max.) at  $I_C = 50mA$ ,  $I_B = 10mA$

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	500	V
Collector-emitter voltage	VCEO	500	V
Emitter-base voltage	VEBO	5	V
Collector current	$I_C$	150	mA
Collector current (pulse)	ICP	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	500	-	-	V	$I_C = 100\mu A$
Collector-emitter breakdown voltage	BVCEO	500	-	-	V	$I_C = 10mA$
Emitter-base breakdown voltage	BVEBO	5	-	-	V	$I_E = 100\mu A$
Collector cut-off current	ICBO	-	-	100	nA	$V_{CB} = 500V$
Collector cut-off current	ICES	-	-	100	nA	$V_{CES} = 500V$
Emitter cut-off current	IEBO	-	-	100	nA	$V_{EB} = 5V$
DC current gain 1	hFE 1	150	-	300	-	$V_{CE} = 10V$ , $I_C = 1mA$
DC current gain 2	hFE 2	80	-	300	-	$V_{CE} = 10V$ , $I_C = 50mA$
DC current gain 3	hFE 3		15	-	-	$V_{CE} = 10V$ , $I_C = 100mA$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	0.2	V	$I_C = 20mA$ , $I_B = 2mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	0.5	V	$I_C = 50mA$ , $I_B = 10mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	0.9	V	$I_C = 50mA$ , $I_B = 10mA$
Base-emitter on voltage	$V_{BE(on)}$	-	-	0.9	V	$V_{CE} = 10V$ , $I_C = 50mA$
Transition frequency	fT	-	50	-	MHz	$V_{CE} = 20V$ , $I_E = -10mA$
Collector output capacitance	Cob	-	-	8	pF	$V_{CB} = 20V$ , $f = 1MHz$ , $I_E = 0A$
Turn on time	ton	-	110	-	ns	$V_{CE} = 100V$ , $I_C = 50mA$
Turn off time	toff	-	1500	-	ns	$I_B1 = 5mA$ , $I_B2 = -10mA$

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.

