

**Silicon NPN transistor epitaxial type  
C5988**

**[ Applications ]**

High current amplifier

**[ Feature ]**

Collector current  $I_C = 6A$

Very low collector saturation voltage  $V_{CE(sat)} = 550mV$  (Max.) at  $I_C = 6A$ ,  $I_B = 300mA$

Excellent gain characteristics specified up to 10 amperes

PNP complementary pair with A5988

**[ Absolute maximum ratings (Ta=25°C) ]**

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	150	V
Collector-emitter voltage	VCEO	60	V
Emitter-base voltage	VEBO	6	V
Collector current (DC)	$I_C$	6	A
Collector current (Pulse)	ICP	20	A
Junction temperature	$T_j$	150	C
Storage temperature	$T_{stg}$	-55 to 150	C

**[ Electrical characteristics (Ta=25°C) ]**

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	150	170	-	V	$I_C = 100\mu A$
Collector-emitter breakdown voltage	BVCEO	60	70	-	V	$I_C = 10mA$
Emitter-base breakdown voltage	BVEBO	6	8	-	V	$I_E = 100\mu A$
Collector cut-off current	ICBO	-	-	50	nA	$V_{CB} = 120V$
Emitter cut-off current	IEBO	-	-	10	nA	$V_{EB} = 6V$
DC current gain 1	$h_{FE1}$	100	-	-	-	$V_{CE} = 1V$ , $I_C = 10mA$
DC current gain 2	$h_{FE2}$	120	200	300	-	$V_{CE} = 1V$ , $I_C = 2A$
DC current gain 3	$h_{FE3}$	75	100	-	-	$V_{CE} = 1V$ , $I_C = 5A$
DC current gain 4	$h_{FE4}$	-	30	-	-	$V_{CE} = 1V$ , $I_C = 10A$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	20	50	mV	$I_C = 100mA$ , $I_B = 5mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	80	120	mV	$I_C = 1A$ , $I_B = 50mA$
Collector-emitter saturation voltage 3	$V_{CE(sat)3}$	-	150	220	mV	$I_C = 2A$ , $I_B = 100mA$
Collector-emitter saturation voltage 4	$V_{CE(sat)4}$	-	400	550	mV	$I_C = 6A$ , $I_B = 300mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	1.15	1.3	V	$I_C = 6A$ , $I_B = 300mA$
Base-emitter on voltage	$V_{BE(on)}$	-	1.05	1.2	V	$V_{CE} = 1V$ , $I_C = 6A$
Transition frequency	fT	-	150	-	MHz	$V_{CE} = 10V$ , $I_E = -100mA$
Collector output capacitance	Cob	-	50	-	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.

