

**Silicon PNP transistor epitaxial type
A5859**

[Applications]

Battery powered circuit (FET driver)

[Feature]

High DC gain $h_{FE} = 120-360$ at $V_{CE} = -2V$, $I_C = -0.5A$

Low collector saturation voltage $V_{CE(sat)} = -0.25V$ (Max.) at $I_C = -2A$, $I_B = -0.2A$

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-140	V
Collector-emitter voltage	VCEO	-100	V
Emitter-base voltage	VEBO	-7	V
Collector current (DC)	IC	-2	A
Collector current (Pulse)	ICP	-3	A
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	-140	-	-	V	$I_C = -100\mu A$, $I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	-100	-	-	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	-	-	-100	nA	$V_{CB} = -140V$, $I_E = 0A$
Emitter cut-off current	IEBO	-	-	-50	nA	$V_{EB} = -6V$, $I_C = 0A$
DC current gain 1	$h_{FE} 1$	150	-	-	-	$V_{CE} = -2V$, $I_C = -10mA$
DC current gain 2	$h_{FE} 2$	120	240	360	-	$V_{CE} = -2V$, $I_C = -0.5A$
DC current gain 3	$h_{FE} 3$	80	-	-	-	$V_{CE} = -2V$, $I_C = -1A$
DC current gain 4	$h_{FE} 4$	50	-	-	-	$V_{CE} = -2V$, $I_C = -2A$
Collector-emitter saturation voltage 1	$V_{CE(sat)} 1$	-	-	-0.04	V	$I_C = -0.1A$, $I_B = -10mA$
Collector-emitter saturation voltage 2	$V_{CE(sat)} 2$	-	-	-0.08	V	$I_C = -0.5A$, $I_B = -50mA$
Collector-emitter saturation voltage 3	$V_{CE(sat)} 3$	-	-	-0.115	V	$I_C = -1A$, $I_B = -0.1A$
Collector-emitter saturation voltage 4	$V_{CE(sat)} 4$	-	-	-0.25	V	$I_C = -2A$, $I_B = -0.2A$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	-0.95	V	$I_C = -1A$, $I_B = -0.1A$
Base-emitter on voltage	$V_{BE(on)}$	-	-	-0.85	V	$V_{CE} = -2V$, $I_C = -1A$
Transition frequency	fT	-	120	-	MHz	$V_{CE} = -5V$, $I_E = 0.1A$
Collector output capacitance	Cob	-	22	-	pF	$V_{CB} = -10V$, $f = 1MHz$, $I_E = 0A$
Collector input capacitance	Cib	-	200	-	pF	$V_{EB} = -2V$, $f = 1MHz$, $I_C = 0A$

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.

