

Silicon NPN transistor epitaxial type C5942

[Applications]

Inverter circuit of LCD monitor

[Feature]

Very low collector-emitter saturation voltage $V_{CE(sat)} = 300\text{mV}$ (Max.) at $I_C = 2\text{A}$, $I_B = 50\text{mA}$

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	80	V
Collector-emitter voltage	VCEO	50	V
Emitter-base voltage	VEBO	6	V
Collector current	IC	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	80	-	-	V	$I_C = 100\mu\text{A}$
Collector-emitter breakdown voltage	BVCEO	50	-	-	V	$I_C = 1\text{mA}$
Emitter-base breakdown voltage	BVEBO	6	-	-	V	$I_E = 10\mu\text{A}$
Collector cut-off current	ICBO	-	-	0.5	μA	$V_{CB} = 80\text{V}$
Collector cut-off current	ICEO	-	-	1	μA	$V_{CE} = 50\text{V}$
Emitter cut-off current	IEBO	-	-	0.5	μA	$V_{EB} = 6\text{V}$
DC current gain	hFE	180	-	610	-	$V_{CE} = 2\text{V}$, $I_C = 100\text{mA}$
Collector-emitter saturation voltage 1	$V_{CE(sat)1}$	-	-	180	mV	$I_C = 1\text{A}$, $I_B = 25\text{mA}$
Collector-emitter saturation voltage 2	$V_{CE(sat)2}$	-	-	300	mV	$I_C = 2\text{A}$, $I_B = 50\text{mA}$
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.2	V	$I_C = 1\text{A}$, $I_B = 100\text{mA}$
Transition frequency	fT	-	230	-	MHz	$V_{CE} = 10\text{V}$, $I_E = -50\text{mA}$
Collector output capacitance	Cob	-	25	-	pF	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$, $I_E = 0\text{A}$

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.

