

**Silicon NPN transistor epitaxial type
DP005**
[Applications]

General purpose

[Feature]

Low collector saturation voltage $V_{CE(sat)} = 0.33V(\text{Max.})$ at $I_C = 100\text{mA}$, $I_B = 10\text{mA}$

[Absolute maximum ratings ($T_a = 25^\circ\text{C}$)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	80	V
Collector-emitter voltage	VCEO	80	V
Emitter-base voltage	VEBO	4	V
Collector current	I_C	500	mA
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	-55 to 125	°C

[Electrical characteristics ($T_a = 25^\circ\text{C}$)]

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	80	-	-	V	$I_C = 100\mu\text{A}$, $I_E = 0\text{A}$
Collector-emitter breakdown voltage	BVCEO	80	-	-	V	$I_C = 1\text{mA}$, $I_B = 0\text{A}$
Emitter-base breakdown voltage	BVEBO	4	-	-	V	$I_E = 100\mu\text{A}$, $I_C = 0\text{A}$
Collector cutoff current	ICBO	-	-	100	nA	VCB = 80V
Collector cutoff current	ICEO	-	-	100	nA	VCE = 60V
Emitter cutoff current	IEBO	-	-	100	nA	VEB = 5V
DC current gain 1	h_{FE1}	90	-	-	-	VCE = 1V, $I_C = 10\text{mA}$
DC current gain 2	h_{FE2}	90	-	-	-	VCE = 1V, $I_C = 100\text{mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.33	V	$I_C = 100\text{mA}$, $I_B = 10\text{mA}$
Transition frequency	f_T	-	115	-	MHz	VCE = 2V, $I_E = -10\text{mA}$
Collector output capacitance	Cob	-	4.5	-	pF	VCB = 10V, $f = 1\text{MHz}$, $I_E = 0\text{A}$

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.

