

**Silicon PNP transistor epitaxial type  
BP013**
**[ Applications ]**

General purpose

**[ Feature ]**

Low collector saturation voltage  $V_{CE(sat)} = -0.4V(\text{Max.})$  at  $I_C = -0.5A, I_B = -50mA$

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

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-80	V
Collector-emitter voltage	VCEO	-80	V
Emitter-base voltage	VEBO	-5	V
Collector current	IC	-0.7	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	$I_C = -50\mu A, I_E = 0A$
Collector-emitter breakdown voltage	BVCEO	-80	-	-	V	$I_C = -2mA, I_B = 0A$
Emitter-base breakdown voltage	BVEBO	-5	-	-	V	$I_E = -50\mu A, I_C = 0A$
Collector-cut off current	ICBO	-	-	-500	nA	$V_{CB} = -50V, I_E = 0A$
Emitter-cut off current	IEBO	-	-	-500	nA	$V_{EB} = -4V, I_C = 0A$
DC current gain	hFE	56	-	777	-	$V_{CE} = -3V, I_C = -0.1A$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.2	-0.4	V	$I_C = -0.5A, I_B = -50mA$
Transition frequency	fT	-	100	-	MHz	$V_{CE} = -10V, I_E = 50mA$
Collector output capacitance	Cob	-	14	20	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.