Silicon PNP transistor epitaxial type
A5888

[Applications]

Charging circuits, DC-DC converters, MOSFET gate drivers
Motor control, Power switches

[Feature]

Very low collector saturation voltage VCE(sat)= -60mV (Max.) at IC= -1A, IB= -0.1A

[Absolute maximum ratings (Ta=25C)]

Characteristic	Symbol	Maximum ratings	Unit
Collector-base voltage	VCBO	-50	V
Collector-emitter voltage	VCEO	-40	V
Emitter-base voltage	VEBO	-7.5	V
Collector current (DC)	IC	-5.5	A
Collector current (Pulse)	IC	-15	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	-50	-	-	V	IC= -100uA, IE= 0A
Collector-emitter breakdown voltage	BVCES	-50	-	-	V	IC= -100uA
Collector-emitter breakdown voltage	BVCEO	-40	-	-	V	IC= -10mA, IB= 0A
Emitter-base breakdown voltage	BVEBO	-7.5	-	-	V	IE= -100uA, IC= 0A
Collector cut-off current	ICBO	-	-	-20	nA	VCB= -40V, IE= 0A
Collector cut-off current	ICES	-	-	-20	nA	VCES= -32V
Emitter cut-off current	IEBO	-	-	-20	nA	VEB= -6V, IC= 0A
DC current gain 1	hFE 1	200	-	-	-	VCE= -2V, IC= -10mA
DC current gain 2	hFE 2	200	-	550	-	VCE= -2V, IC= -0.5A
DC current gain 3	hFE 3	170	-	-	-	VCE= -2V, IC= -2A
DC current gain 4	hFE 4	110	-	-	-	VCE= -2V, IC= -5.5A
Collector-emitter saturation voltage 1	VCE(sat) 1	-	-	-30	mV	IC= -0.1A, IB= -10mA
Collector-emitter saturation voltage 2	VCE(sat) 2	-	-	-60	mV	IC= -1A, IB= -100mA
Collector-emitter saturation voltage 3	VCE(sat) 3	-	-	-70	mV	IC= -1A, IB= -50mA
Collector-emitter saturation voltage 4	VCE(sat) 4	-	-	-165	mV	IC= -1A, IB= -10mA
Collector-emitter saturation voltage 5	VCE(sat) 5	-	-	-80	mV	IC= -2A, IB= -200mA
Collector-emitter saturation voltage 6	VCE(sat) 6	-	-	-175	mV	IC= -2A, IB= -40mA
Collector-emitter saturation voltage 7	VCE(sat) 7	-	-	-175	mV	IC= -3.5A, IB= -175mA
Collector-emitter saturation voltage 8	VCE(sat) 8	-	-	-185	mV	IC= -5.5A, IB= -550mA
Base-emitter saturation voltage 1	VBE(sat) 1	-	-	-0.9	V	IC= -2A, IB= -40mA
Base-emitter saturation voltage 2	VBE(sat) 2	-	-	-1.075	V	IC= -5.5A, IB= -550mA
Base-emitter on voltage 1	VBE(on) 1	-	-	-0.85	V	VCE= -2V, IC= -2A
Base-emitter on voltage 2	VBE(on) 2	-	-	-0.95	V	VCE= -2V, IC= -5.5A
Transition frequency	fT	-	152	-	MHz	VCE= -10V, IE= 50mA
Collector output capacitance	Cob	-	53	-	pF	VCB= -10V, f = 1MHz, IE= 0A
Turn on time 1	ton 1	-	35	-	ns	VCC= -10V, IC= -1A -IB1= IB2= -100mA
Turn off time 1	toff 1	-	385	-	ns	
Turn on time 2	ton 2	-	162	-	ns	VCC= -30V, IC= -2A -IB1= IB2= -20mA
Turn off time 2	toff 2	-	367	-	ns	

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.

Fig.1 IC - VBE(on)
at VCE= -2V, Ta= 25C

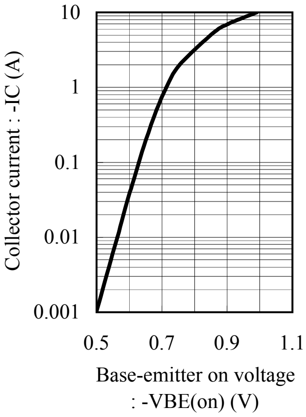

Fig.2 hFE - IC
at VCE= -2V, Ta= 25C

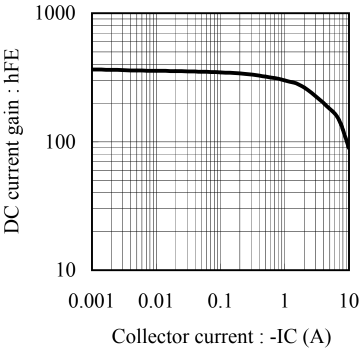

Fig.3 VCE(sat) - IC
at IC/IB= 10, Ta= 25C

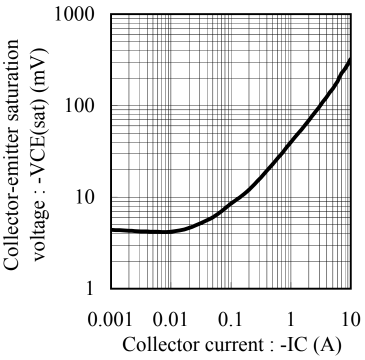

Fig.4 VCE(sat) - IC
at IC/IB= 20, Ta= 25C

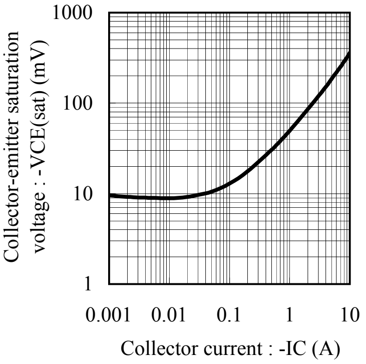

Fig.5 VCE(sat) - IC
at IC/IB= 50, Ta= 25C

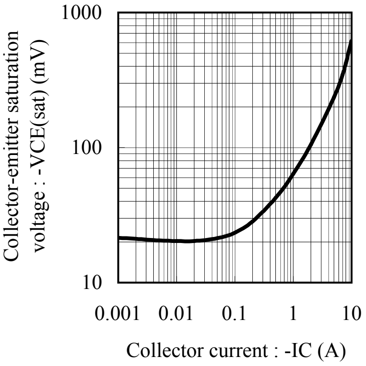

Fig.6 VCE(sat) - IC
at IC/IB= 100, Ta= 25C

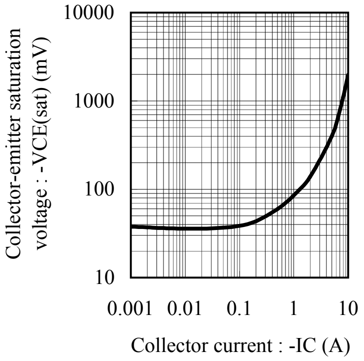

Fig.7 VBE(sat) - IC
at IC/IB= 10, Ta= 25C

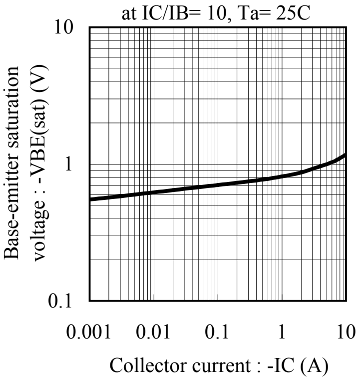

Fig.8 VBE(sat) - IC
at IC/IB= 50, Ta= 25C

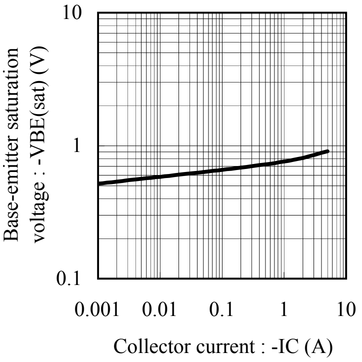

Fig.9 fT - IE
at VCE= -10V, Ta= 25C

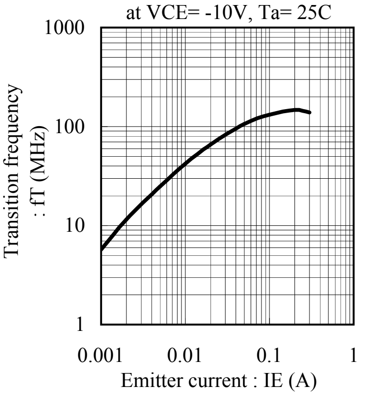

Fig.10 Cob - VCB
at f= 1MHz, Ta= 25C

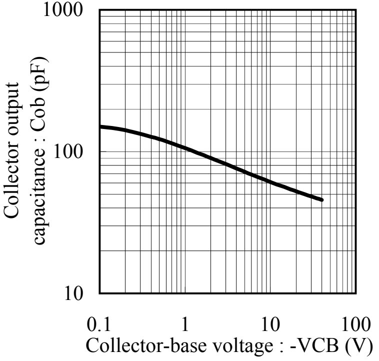

Fig.11 Cib - VEB
at f= 1MHz, Ta= 25C