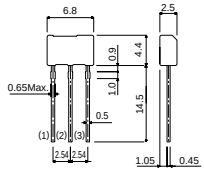
Power Transistor (–120V, –1.5A)

2SB1236

●Features

1) High breakdown voltage. (BV_{CEO} = –120V)
2) Low collector output capacitance.
   (Typ. 30pF at V_{CB} = –10V)
3) High transition frequency. (f_T = 50MHz)
4) Complements the 2SD1857.

●External dimensions (Unit : mm)



Taping specifications

ROHM : ATV

(1) Emitter
(2) Collector
(3) Base

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–120	V
Collector-emitter voltage	V_{CEO}	–120	V
Emitter-base voltage	V_{EBO}	–5	V
Collector current	I_C	–1.5	A (DC)
		–3	A (Pulse) ✻1
Collector power dissipation	P_C	1	W ✻2
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

✻1 Single pulse Pw = 100ms
✻2 Printed circuit board 1.7mm thick, collector plating 1cm² or larger.

●Packaging specifications and h_{FE}

Type	2SB1236
Package	ATV
h_{FE}	QR
Code	TV2
Basic ordering unit (pieces)	2500

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–120	–	–	V	I_C = –50μA
Collector-emitter breakdown voltage	BV_{CEO}	–120	–	–	V	I_{CV} = –1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E = –50μA
Collector cutoff current	I_{CBO}	–	–	–1	μA	V_{CB} = –100V
Emitter cutoff current	I_{EBO}	–	–	–1	μA	V_{EB} = –4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	–2	V	I_C/I_B = –1A/–0.1A ✻
DC current transfer ratio	h_{FE}	120	–	390	–	V_{CE} = –5V , I_C = –0.1A
Transition frequency	f_T	–	50	–	MHz	V_{CE} = –5V , I_E = 0.1A , f = 30MHz
Output capacitance	Cob	–	30	–	pF	V_{CB} = –10V , I_E = 0A , f = 1MHz

✻Measured using pulse current.

●Electrical characteristics curves

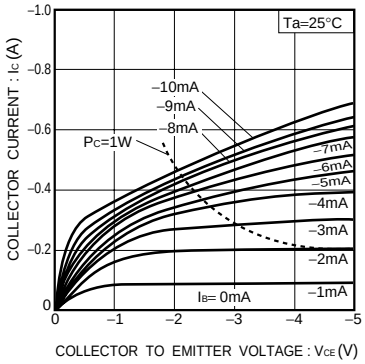


Fig.1 Ground emitter output characteristics

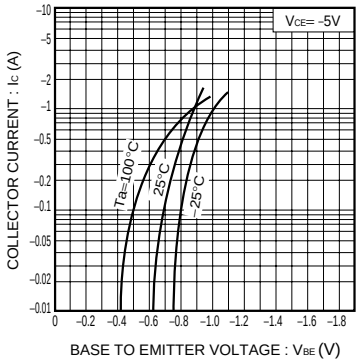


Fig.2 Ground emitter propagetion characteristics

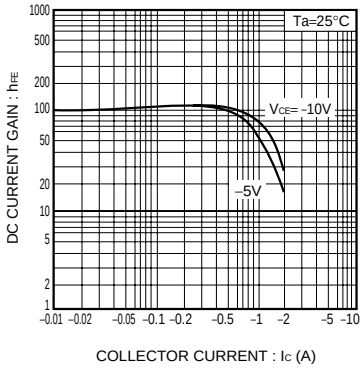


Fig.3 DC current gain vs. collector current (Ⅰ)

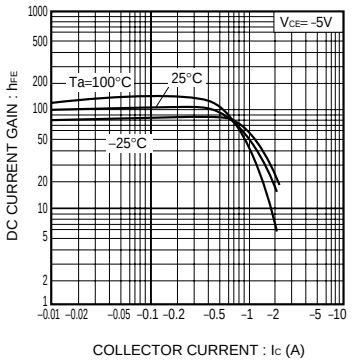


Fig.4 DC current gain vs. collector current (Ⅱ)

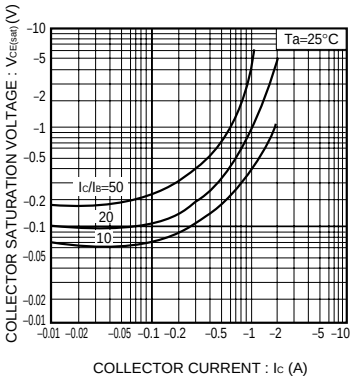


Fig.5 Collector-emitter saturation voltage vs. collector current

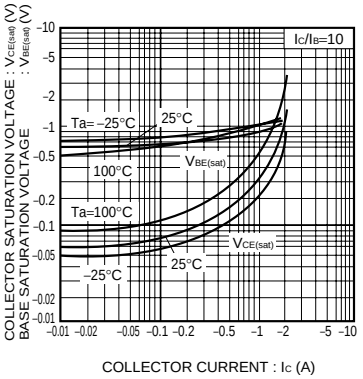


Fig.6 Collector-emitter saturation voltage
Base-emitter saturation voltage vs.collector current

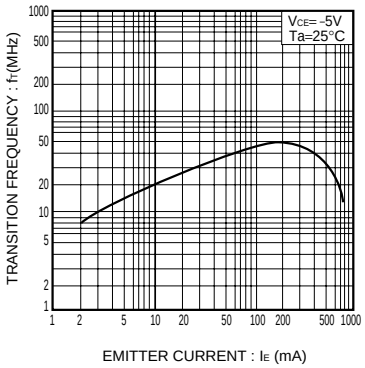


Fig.7 Gain bandwidth product vs. emitter current

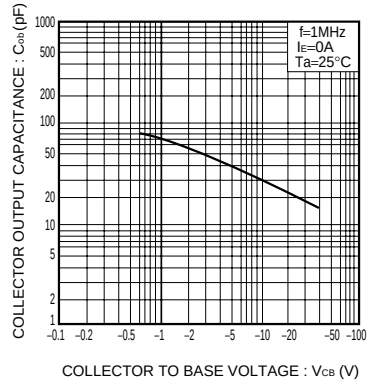


Fig.8 Collector output capacitance vs. collector-base voltage

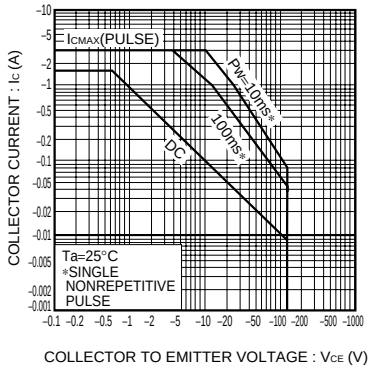


Fig.9 Safe operating area

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