Power Transistor (–160V , –1.5A)

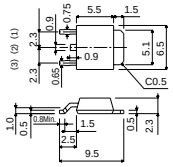
2SB1275 / 2SB1236A

●Features

1) High breakdown voltage.(BV_{CEO} = –160V)
2) Low collector output capacitance.
   (Typ. 30pF at V_{CB} = 10V)
3) High transition frequency.(f_T = 50MHz)
4) Complements the 2SD1918 / 2SD1857A.

●External dimensions (Unit : mm)

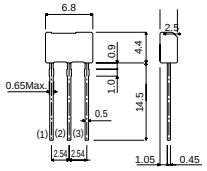
2SB1275



ROHM : CPT3
EIAJ : SC-63

(1) Base(Gate)
(2) Collector(Drain)
(3) Emitter(Source)

2SB1236A



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}	–160	V
Collector-emitter voltage		V_{CEO}	–160	V
Emitter-base voltage		V_{EBO}	–5	V
Collector current		I_C	–1.5	A(DC)
			–3	A(Pulse) ∗1
Collector power dissipation	2SB1275	P_C	1	W(T_C=25°C)
			10	
	2SB1236A		1	W ∗2
Junction temperature		Tj	150	°C
Storage temperature		Tstg	–55–+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	2SB1275	2SB1236A
Package	CPT3	ATV
h_{FE}	P	PQ
Code	TL	TV2
Basic ordering unit (pieces)	2500	2500

●Electrical characteristics (Ta = 25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage		BV_{CBO}	–160	–	–	V	I_C = –50μA
Collector-emitter breakdown voltage		BV_{CEO}	–160	–	–	V	I_C = –1mA
Emitter-base breakdown voltage		BV_{EBO}	–5	–	–	V	I_E = –50μA
Collector cutoff current		I_{CBO}	–	–	–1	μA	V_{CB} = –120V
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	2SB1275	h_{FE}	82	–	180	–	V_{CE} = –5V , I_C = –0.1A
	2SB1236A		82	–	270	–	
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

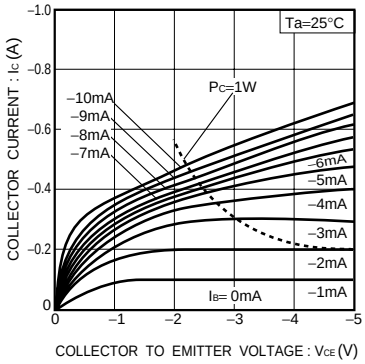


Fig.1 Ground emitter output characteristics

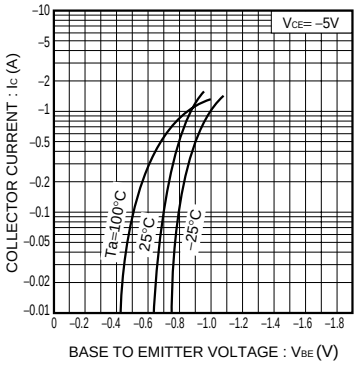


Fig.2 Ground emitter propagation characteristics

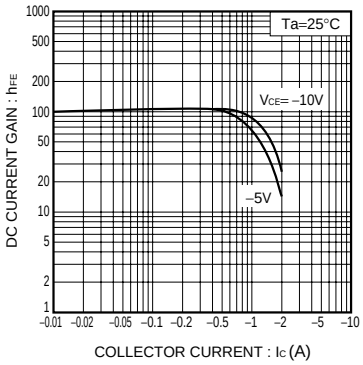


Fig.3 DC current gain vs. collector current (Ⅰ)

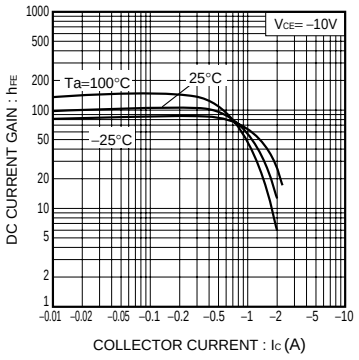


Fig.4 DC current gain vs. collector current (Ⅱ)

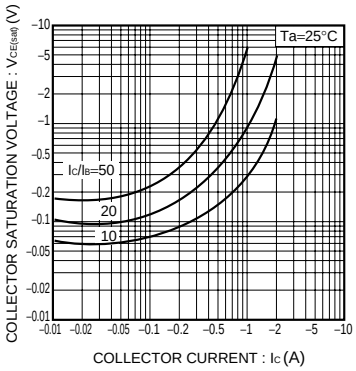


Fig.5 Collector-emitter saturation voltage vs. collector current

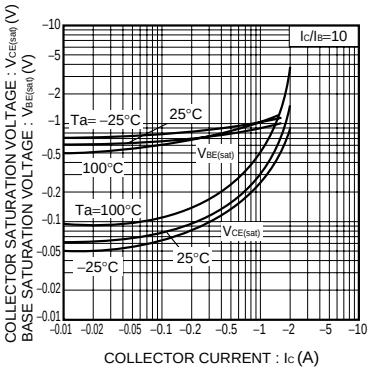


Fig.6 Collector-emitter saturation voltage
Base-emitter saturation voltage vs. collector current

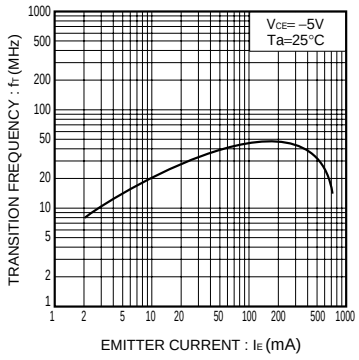


Fig.7 Resistance raito vs. emmiter current

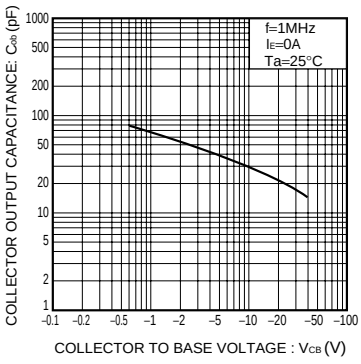


Fig.8 Collector output capacitance vs. collector-base voltage

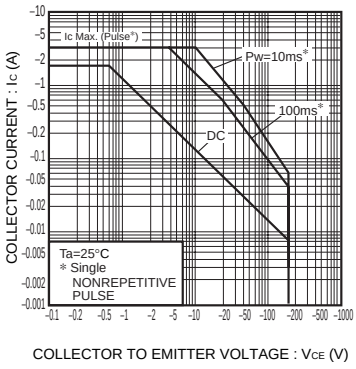


Fig.9 Safe operating area (2SB1236A)

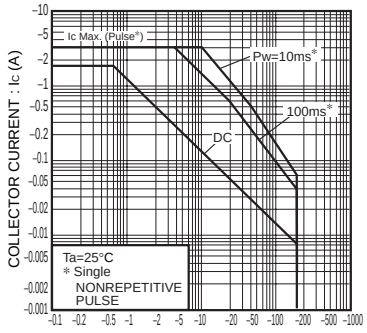


Fig.10 Safe operating area (2SB1275)

Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).
Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.
In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.