Power Transistor (–160V, –1.5A)

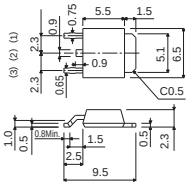
2SB1275 / 2SB1236A

●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.

●Dimensions (Unit : mm)

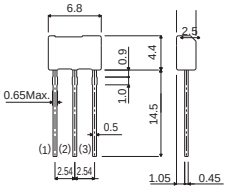
2SB1275



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 to +150	°C	

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

●Packaging specifications and h_{FE}

Type	2SB1275	2SB1236A
Package	CPT3	ATV
h_{FE}	P	D
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		100	–	200	–	
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

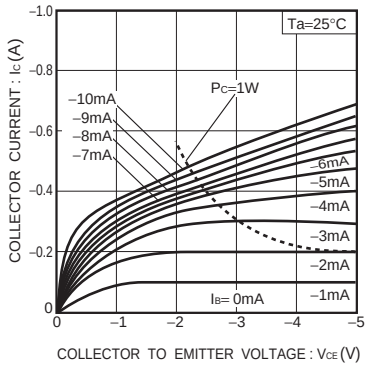


Fig.1 Ground emitter output characteristics

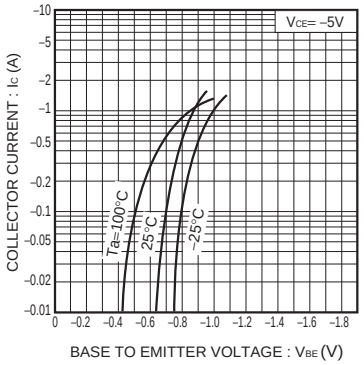


Fig.2 Ground emitter propagation characteristics

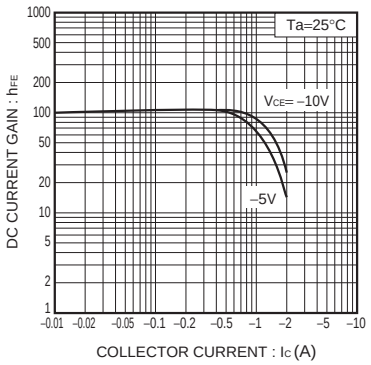


Fig.3 DC current gain vs. collector current (I)

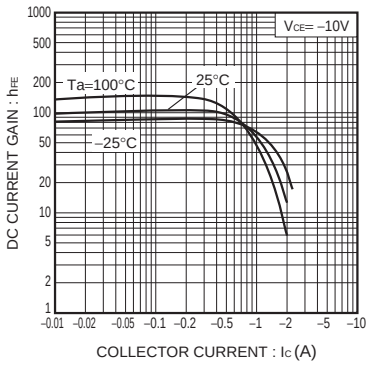


Fig.4 DC current gain vs. collector current (II)

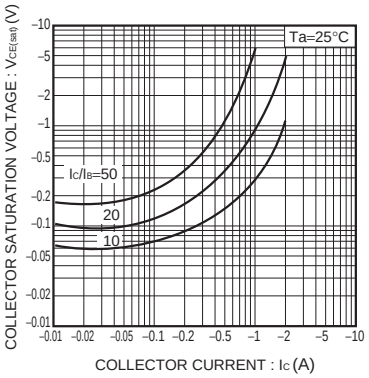


Fig.5 Collector-emitter saturation voltage vs. collector current

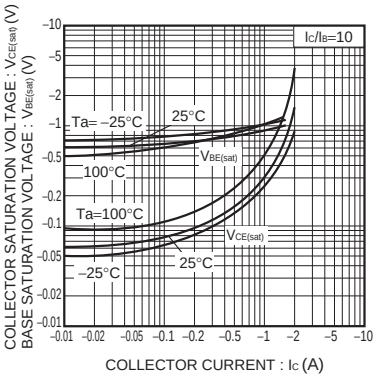


Fig.6 Collector-emitter saturation voltage
Base-emitter saturation voltage
vs. collector current

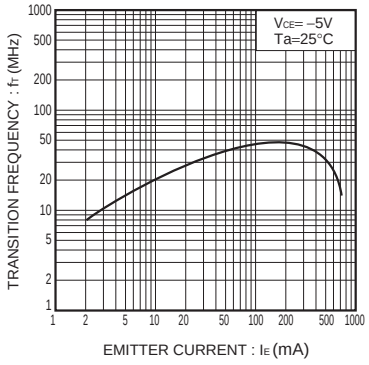


Fig.7 Resistance raito vs. emmiter current

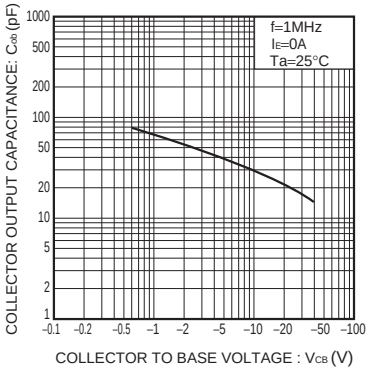


Fig.8 Collector output capacitance vs. collector-base voltage

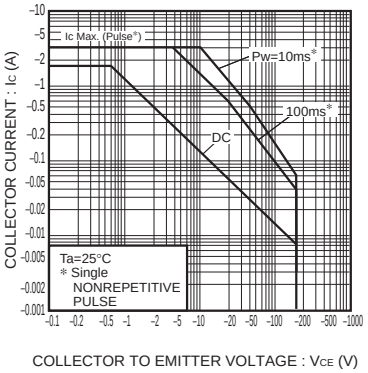


Fig.9 Safe operating area (2SB1236A)

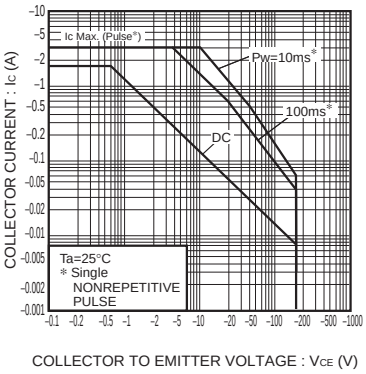


Fig.10 Safe operating area (2SB1275)

Notes

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